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## DODGE TRUCKS

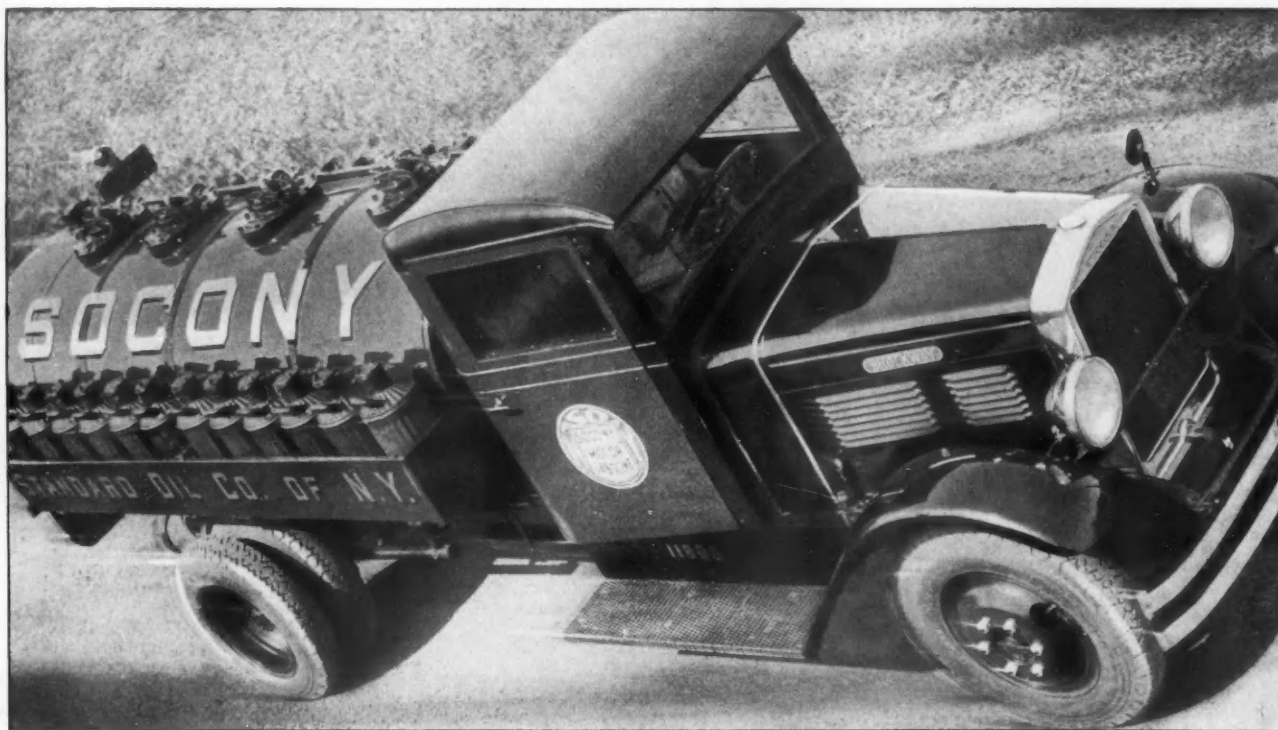
Business men with critical judgments have proved and reproved the economy of their Dodge Trucks. They have found these workers economical not alone in cost of operation or in cost of upkeep or in first cost or in ability to serve long—but in these essentials combined, all true gauges of truck economy.

See and inspect Dodge Trucks. See business men who own them. Ask their candid opinions. Check the reports you get against your findings on any other truck.

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# BROCKWAY-INDIANA TRUCKS



## More and more ORGANIZATIONS and INDIVIDUALS are turning to BROCKWAY-INDIANAS

Brockway-Indiana fleets, ranging from ten to fifty units, are being acquired by many of the largest organizations in the petroleum, dairy, telephone, construction and other fields.

Out of the experience of twenty-one years of truck building, Brockway-Indiana has evolved a stabilized line of motor trucks. Advanced engineering and design, together with closer co-operation and more permanent alignment with the foremost parts manufacturers, enable Brockway-Indiana to offer the outstanding values in the industry.

Whether you are buying or selling trucks, find out just what the Brockway-Indiana policy means to *you*. Write Eastern Division, Brockway Motor Truck Corporation, Cortland, N. Y.; Western Division, Indiana Truck Corporation, Marion, Indiana; Executive Office, 420 Lexington Avenue, New York City; General Offices, Cortland, New York.

An international institution having 40 direct factory branches and 350 dealer connections in America and 135 distributors in 85 foreign countries. Real convenience for the truck buyer!

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One-to-ten-ton Fours and Sixes, Four-wheelers and Six-wheelers. \$995 to \$9750, f.o.b. factories.

A few desirable franchises are still open at home and abroad. Write or wire!

# POWER MATCHED TO INDUSTRY







With its present superb models, International has scored a triumph in truck engineering and in popular approval . . . the achievement of twenty-six years' experience in automotive manufacture.



That International Trucks are soundly built, with careful attention to component parts, is evidenced by the use of Hyatt Roller Bearings in the transmissions of all models and also in the two-speed rear axle of the famous Six-Speed Special.

Free-running Hyatts, quiet Hyatts, handle their appointed tasks consistently and well . . . to safeguard performance of which International is justly proud.

No small measure of International's successful reception, then, is due to Hyatt stamina and efficiency at strategic positions in the chassis.

HYATT ROLLER BEARING COMPANY

Newark Detroit Chicago Pittsburgh Oakland

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**QUIET ROLLER BEARINGS**

PROTECTING QUALITY PRODUCTS

# Bendix-equipped trucks

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# BENDIX BRAKES



Bendix Mechanical Brakes  
Bendix Hydraulic Brakes  
Bendix-Westinghouse Automotive Air Brakes  
B-K Brake Boosters



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## ONE OF THE "POWERS THAT BE"!

Hydraulic power—that irresistible force so essential in modern engineering tasks—is yours in handy form to use in your shop for lifting the heaviest of trucks and buses. The Pedersen OILJAK saves time because it always works easily. OILJAK has solved the lifting problem for fleet owners. Made in various sizes and capacities to meet every automotive requirement.

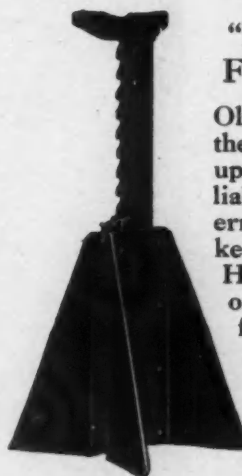


P E D E R S E N

# Oiljak

## "MY KINGDOM FOR A HORSE!"

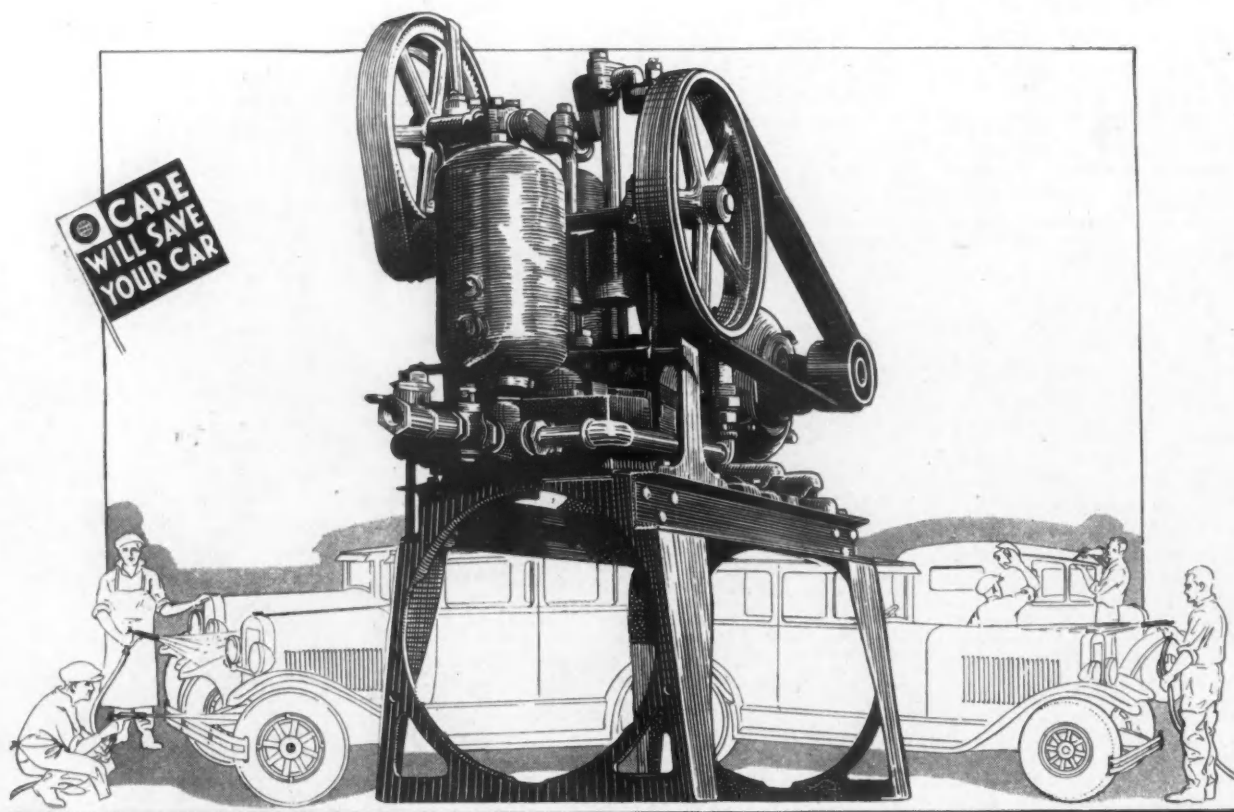
Old King Richard wasn't the only one who was up against it for a reliable horse. Every modern service station should keep a pair of Hi-Lo Horses handy. Made of steel throughout—forged and plate—light in weight and easy to handle. Models range in height from 9½ to 41½ inches.



# Hi-Lo Horse

Complete information about these invaluable service aids sent on request.

THE OIL JACK CO., INC.  
AMPERE - - - NEW JERSEY



## A BRUNNER WASHER IS A GOOD ADVERTISING INVESTMENT

THE operator of a well-known fleet of vans was once asked how he was able to get along on so little advertising. "These are my best 'ads'", he said, pointing to a long row of shining red trucks.

Each car was spotless, with gold trimming that looked freshly painted . . . With sparkling messengers like these plying the highways, no wonder the firm's name was remembered!

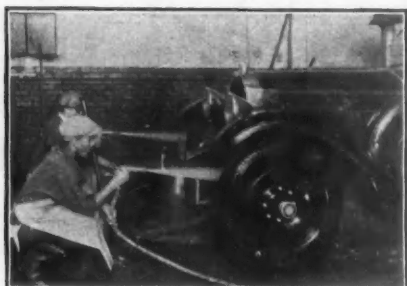
It takes a rugged, dependable hydraulic

car washer like the Brunner to keep a big fleet of trucks or cabs spic and span. This can be done with economy, too, for Brunner washing equipment is built for high pressures that quickly remove harmful mud and traffic film.

Look at the design of the Brunner Washer, as advanced as its companion, the Brunner Compressor. Three large cylinders operating smoothly at slow speed deliver abundant water at any

pressure up to 300 pounds, depending on the nozzle adjustment. Large cushioning chambers, in conjunction with the triple cylinder arrangement, eliminate all surging, hammering and pump breakages. Operation is trouble-free; bearings and valves are easily accessible; glands can be repacked and readjusted in 5 minutes' time.

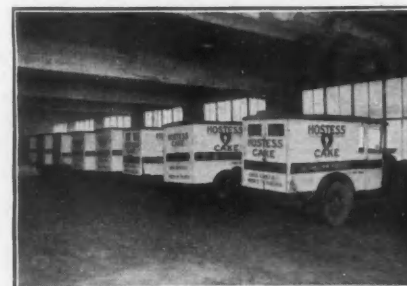
There are three popular models for all types of duty.



BRUNNER MFG. CO.  
UTICA, NEW YORK  
KANSAS CITY, MO. TORONTO, CAN.

### USEFUL INFORMATION

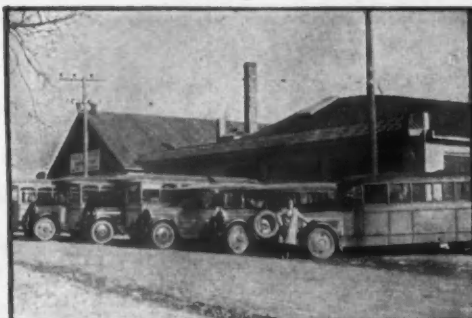
The new illustrated Brunner Air Compressor Manual contains facts, figures, information that every truck operator should have for ready reference. Write Dept. S-5 for your free copy.



# BRUNNER — CAR — WASHERS

A WORLD'S STANDARD OF DEPENDABILITY





"Robert Bosch Plugs average for us 50,000 to 60,000 miles of service. The results we get from them are wonderful."—Mr. J. H. Poling, Manager of the Rollo Transit Corp., Keyport, N. J.

## Read This Record

"Pyro-Action Spark Plugs are the only plugs we have found which will stand a hot motor."—Mr. D. Clinton Dominick, General Manager, Hudson Transit Co., Newburg, N. Y.



"We were never able to obtain more than one or two weeks of service from any plugs. Now our fleet of twenty-four busses is equipped with Robert Bosch Pyro-Action Plugs. They are the only plugs that give us satisfaction."—DeCamp Bus Lines, Livingston, N. J.



"We find the Robert Bosch Pyro-Action Spark Plug to be far superior to any other plug. We are now using them nearly exclusively."—Pickwick Stages System, operators of the famous NiteCoaches.



"We were replacing plugs every four to six weeks. The Robert Bosch Spark Plugs have already given three months of service and are still in excellent condition."—Hempstead Bus Corp., Hempstead, L. I.



"We have tested four sets of Robert Bosch Pyro-Action Spark Plugs. Average life of twenty-four plugs 27,734 miles. We have used Robert Bosch Plugs exclusively for eighteen months, operating 70,000 miles per month."—Mr. A. F. Tidswell, General Manager, Erie Railways Co. and Erie Coach Co., Erie, Pa.



*—it is a challenge to any fleet owner*


**I**F YOU happened to know personally, Mr. J. H. Poling of the Rollo Transit Corp., Keyport, N. J., and he told you that he was averaging 50,000 miles from a set of spark plugs, we have a suspicion that you would be pretty anxious to see what those plugs would do for you.

Mr. Poling's facts lose none of their force when he puts them in writing. They are even more impressive when his experience with Robert Bosch Pyro-Action Spark Plugs is echoed by other famous fleet owners, a few of whom are mentioned on this page. These records point the way to reduced costs and speeded-up schedules. To every fleet owner they stand as a challenge to test out a set of Robert Bosch Pyro-Action Spark Plugs and compare the results.

Your Robert Bosch service station will be glad to help you make such a test. For the superiority in design, materials, and workmanship of Robert Bosch Plugs will show as surely on your bus or truck, as when Robert Bosch Pyro-Action Plugs are used on the Graf Zeppelin, the Dornier Do-X, or famous bus and truck fleets throughout the country.



**ROBERT BOSCH MAGNETO CO., Inc.**  
3603F Queens Blvd., Long Island City, New York

All Robert Bosch Pyro-Action Spark Plugs bear the full name "ROBERT BOSCH" and this trademark: 

**Robert Bosch**  
**Pyro-Action**  
**Spark Plugs**

# **L A P E E R** **T R A I L E R S**

## Open New Markets

The demands of modern business for CHEAPER TRANSPORTATION can only be met through handling larger loads. The equipment required to handle these loads has opened new and profitable fields to the salesmen of modern transportation.

L A P E E R Trailers—with their many exclusive features, enable you to best furnish the needs of this ever expanding market and to increase your earnings. You are able to offer prospects a thoroughly developed—quality vehicle—like the quality truck you sell to operate with it.

A roster of Lapeer users tells its own story. Write for it and full data on the Lapeer Line.

**L A P E E R AUTOMATIC  
COUPLING-UNCOUPLING**

IS

**CHEAPER  
QUICKER  
SAFER**

Manufacturers of Automatic and Manual Semi-Trailers, Four-Wheel Trailers, Pole and Drag Trailers.

**L A P E E R  
T R A I L E R  
C O R P O R A T I O N  
L A P E E R, M I C H I G A N  
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# *the* NEW A.C.F.

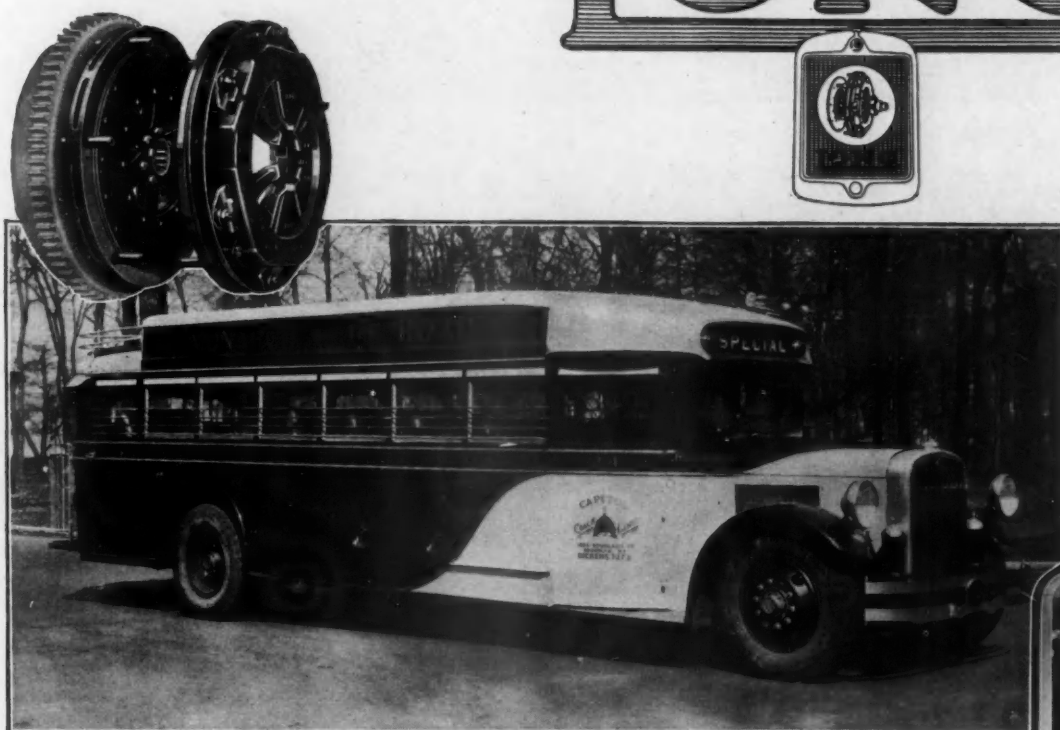
SERIES 45 BUSES

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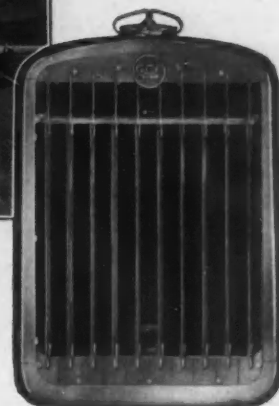
LONG CLUTCHES

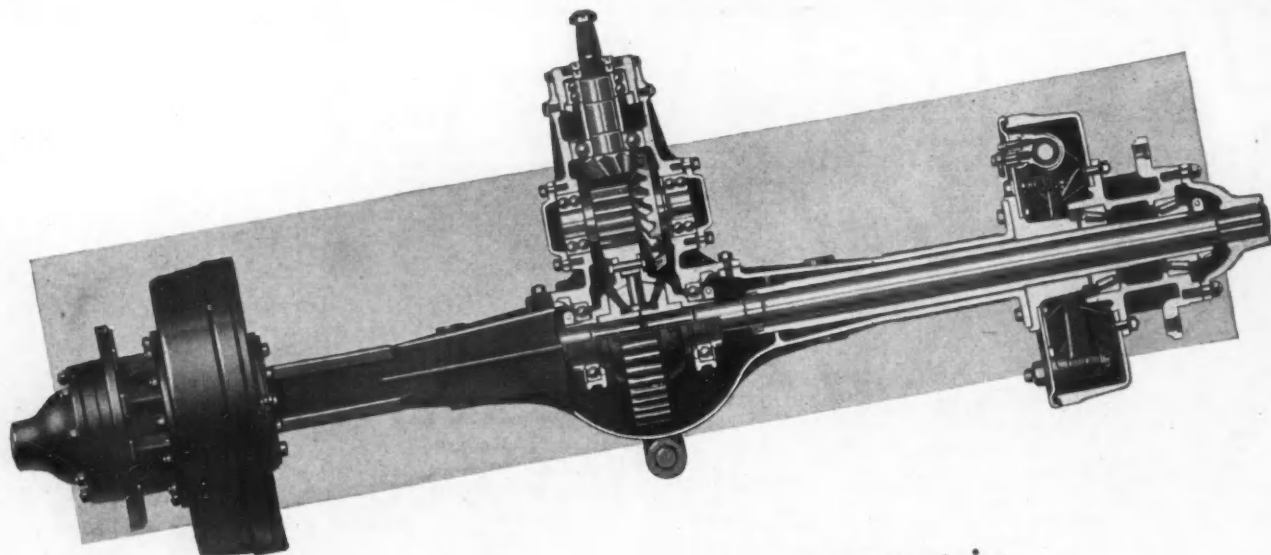
AND RADIATORS

LONG MANUFACTURING  
COMPANY, Detroit, Michigan



LONG PRODUCTS  
AUTOMOTIVE CLUTCHES AND RADIATORS





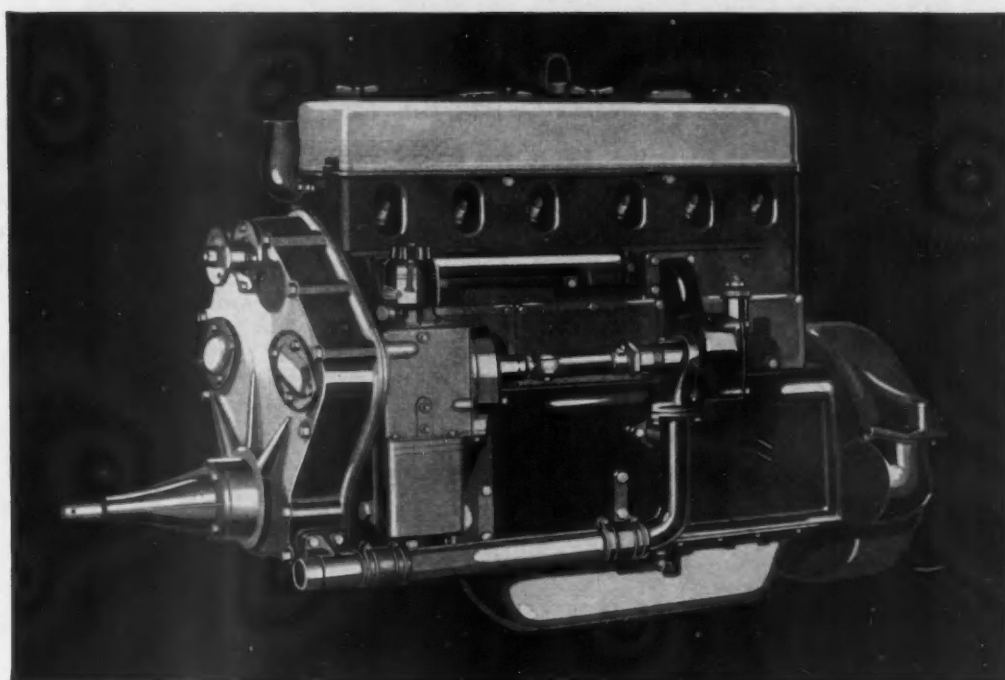
APPROACHING this  
question of axle equipment  
from the performance side  
— strength, freedom from  
mechanical troubles, high  
efficiency, and low costs —  
you get the right answer in



WISCONSIN AXLE COMPANY  
Oshkosh, Wisconsin



*1 1 1 There are a  
hundred logical reasons for you to*  
**SPECIFY CONTINENTAL**



**DEPENDABLE POWER  
FOR EVERY PURPOSE**



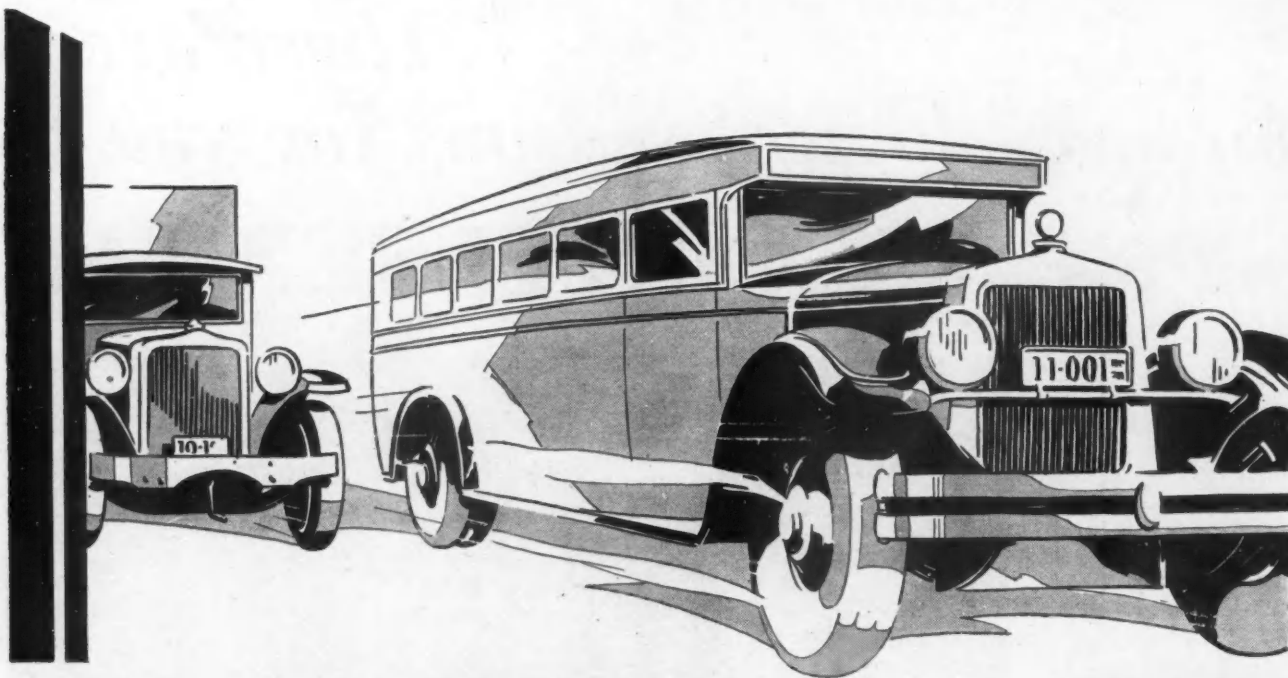
One reason is enough: Continental motors are precision built by expert craftsmen to designs that are specifically created for each purpose. That means dependable power operating at minimum cost over a longer productive period. It also means greater net income to all who operate motor vehicles for profit.

**CONTINENTAL MOTORS CORPORATION**

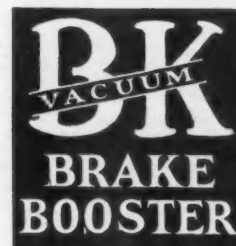
Offices: Detroit, Mich., U. S. A.    Factories: Detroit and Muskegon

*The Largest Exclusive Motor Manufacturer in the World*

***Continental Engines***



# GO FASTER! STOP QUICKER!



The ability to stop quickly cuts down delivery costs in many ways. It permits higher speeds and more trips per day. It often saves loads from damage. It safely speeds up bus schedules. It prevents brake fatigue and increases the efficiency of the driver.

B-K Vacuum Brake Boosters are power brakes—utilizing the vacuum from the intake manifold to operate the brakes.

This power is applied uniformly to each brake shoe, producing a quick, smooth, skidless stop. Power is in direct proportion to pedal depression and adds to, but does not interfere with the original mechanical pedal braking.

B-K Vacuum Brake Boosters are standard equipment on many of the leading trucks and may be installed on truck, bus, tractor and trailer or passenger cars without changing the brake equipment.

*Write for particulars*

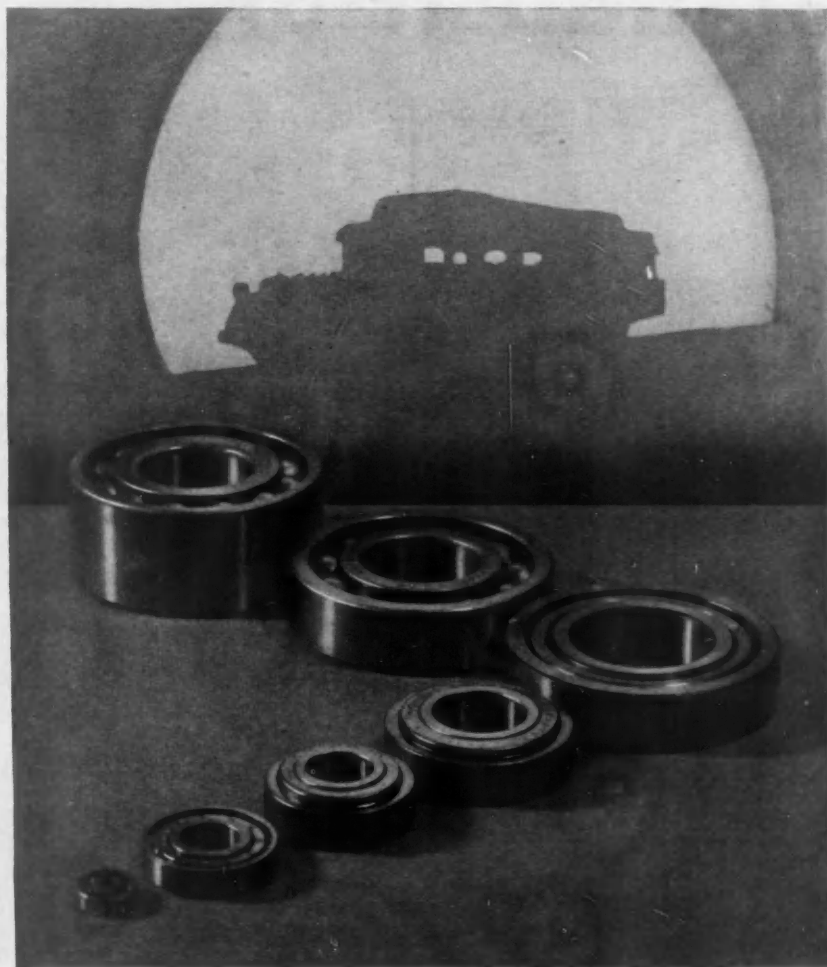
**BRAGG-KLIESRATH CORPORATION**

*(Division of Bendix Aviation Corporation)*

**LONG ISLAND CITY, NEW YORK**

# NEW DEPARTURE BALL BEARINGS

**Bearings that are  
Bigger than  
the Job**



- The bigger the bus, the rougher the road . . . the more need for bearings that combine strength and stamina. New Departure Ball Bearings are designed to be better than seems necessary. They adapt themselves, as no other type can, to varying combinations of radial and thrust loads . . . are equally good in all positions, for all service conditions and have the happy faculty of lasting, without readjustments, for the full life of the mechanism. The New Departure Manufacturing Company, Bristol, Connecticut.

**NOTHING ROLLS LIKE A BALL**



# Builders of Industrial Empire



One of a fleet of Heavy-Duty Internationals working on Pennsylvania Railroad widening, between Washington and Baltimore

Since 1919, beginning with an output already impressive, International Harvester truck production has increased seven-fold, while the total production of the truck industry has only doubled. The International Truck Line includes the Special Delivery, the Six-Speed Special, Speed Trucks to 3-ton, and Heavy-Duty Trucks to 5-ton.

## The McCORMICK-DEERING Industrial Tractor

A compact, economical power unit ready for most anything. It delivers its power three ways . . . through drawbar, belt, or power take-off. It pulls, pushes, and lifts. It combines with an almost endless variety of equipment. Write for the booklet, "Tractor Power in Industry."

**E**MPIRE BUILDERS of the new order . . . *International Trucks!* Once the railroads held sole title to the term, as they forced back the wilderness, but now the heavy-duty motor truck disputes the claim.

Indeed, while the railroads still build empire *the trucks are building railroads.* Granted that the great pioneer trunk lines were laid before the birth of the truck, today the truck is indispensable where new projects face the construction engineer.

Problems of the 'Sixties and 'Eighties somehow found their slow and painful solution, *but the truck is of today and tomorrow.* With its flexible power and efficiency the mountainous labor of load-distribution is infinitely simplified.

## INTERNATIONAL HARVESTER COMPANY

606 So. Michigan Ave. **OF AMERICA**  
(Incorporated)

Chicago, Illinois



Here is a McCormick-Deering Industrial Tractor performing its simplest service—hauling trailers at the drawbar

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VOL. XXXIX

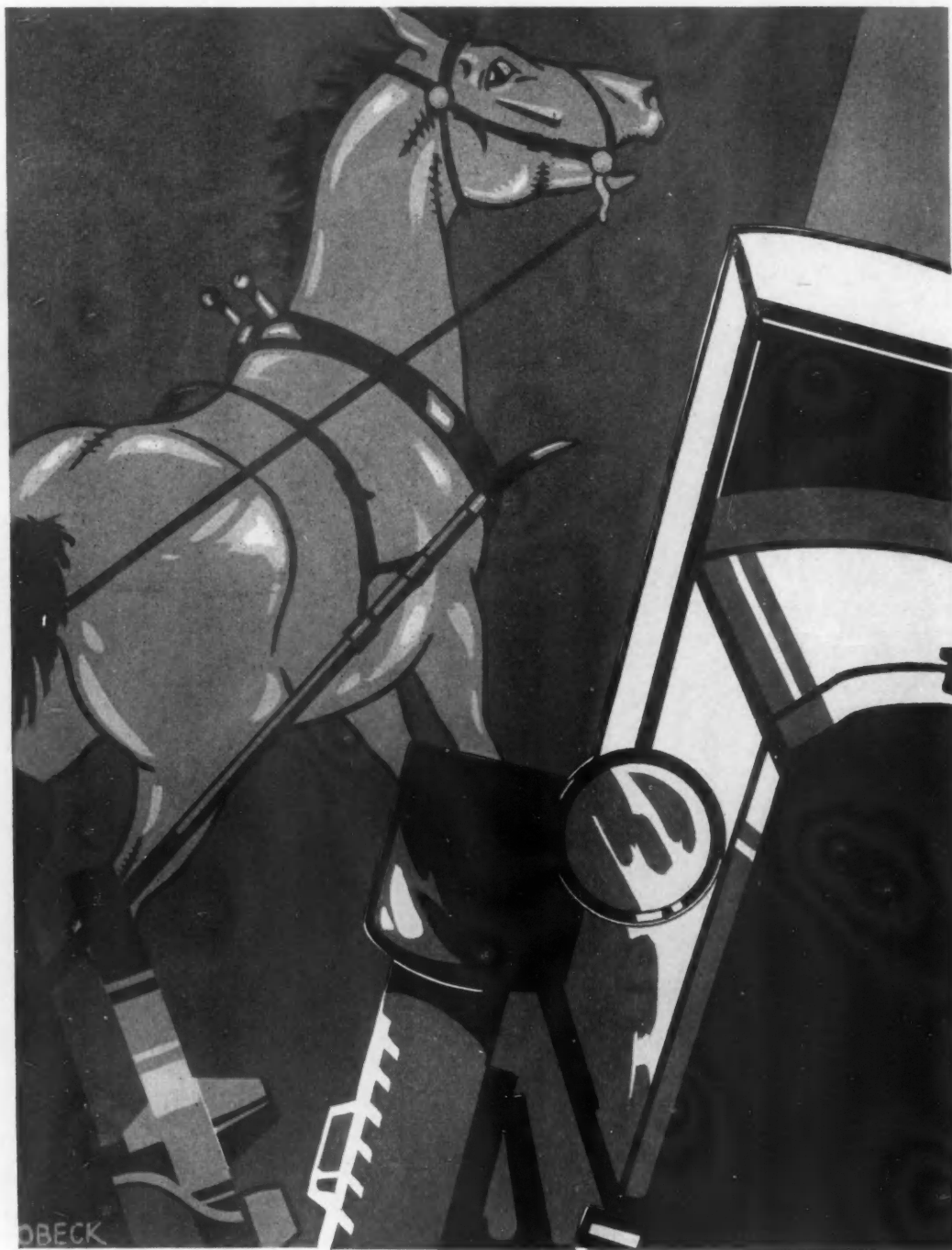
PHILADELPHIA, MAY, 1930

NO. 3



More than a billion dollars will be spent this year to keep trucks running

MAKE  
MONEY  
FROM  
MAINTENANCE



# DAIRY HORSES MUST

May, 1930

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19043

The Commercial Car Journal  
and Operation & Maintenance



## Modern Traffic Problems and Transportation Efficiency Require Elimination of Horse-Drawn Vehicles From City Streets

THE picture of Old Dobbin plodding through the residential districts in the early hours of the morning, his hoofs clattering noisily on the pavement, wearily obeying the commands of the milkman as he makes his deliveries, is fading into obscurity. The horse-drawn vehicle is passé in the dairy industry for house-to-house delivery as well as for long-haul transportation, and two short years more will see the accomplishment of the complete change-over.

Four years ago we began to retire our horse-drawn equipment and substituted motor trucks. With 1200 vehicles in use, it requires time to complete the change, but within two years more the last of the horse and wagon combinations is expected to be discarded. Since 1926, already about 250 trucks have supplanted horses in the transportation division of our organization.

It was not in the nature of an experiment that prompted the substitution, but a definite program which was based on facts from the records of the company and the endeavor to keep abreast of the times. Besides the move to keep pace with progress, the other reasons based on efficiency may be summarized briefly as follows: economy of upkeep and operation; efficiency in traffic; extended and larger routes; elimination of distribution centers; saving in time; larger cargoes, and customer satisfaction.

To those who believed that the horse was part and parcel of dairy delivery service, the matter of economy in original cost and upkeep, or as it may be figured, cost per route or unit cost of operation,

of the motor truck appeared as an unreasonable supposition. However, figures speak for themselves. According to our company's records, the average cost of the trucks used in house-to-house delivery was \$1,000. The horse-drawn wagon cost \$650. Figuring the cost of three horses, which each truck supplanted, there would be an additional \$450, each horse averaging \$150. In this cost was figured the services of a horse buyer who was regularly employed in traveling throughout the Rocky Mountain region buying new stock, the shipping costs and incidentals to putting the horse into service. Then, too, another \$60 was figured for the harness, making in all a total of \$1,160.

So much for original outlay. The maintenance costs of the horse, which might appear to be in his favor, were found to be larger than it might be supposed. Prices of feed, extra men required for the stables, having horses shod, keeping them in good condition, all this increases the upkeep figures. Feed is especially high in southern California, and this makes the cost per day of maintaining a horse even more than the government figures show, which is \$1.50 a day.

This does not include depreciation. The average usefulness of the horse in milk delivery service is only two years, and when he is worn out, he must be replaced. Some trucks, on the other hand, have been in continuous service of the company since 1917. True, trucks require constant attention and servicing, but we maintain a mechanical service garage which we consider second to none in its class, where everything from the adjusting of a brake to the complete overhauling of a motor can be done by expert workmen. This, of course, cuts down the maintenance costs.

Traffic conditions in the city are such that the horse finds no place on the streets. Not only does he add to the congestion, but from the standpoint of the driver the horse-drawn vehicle is not an efficient means of getting hither and yon. It is slow, cumbersome, and even dangerous, traveling. Modern traffic problems, public expediency and transportation efficiency of the

DECLARES



L. B. BEVIER  
Fleet Manager

Western Dairy Products, Inc.  
Los Angeles California

# GIVE WAY

company all require the elimination of Old Dobbin from city streets. Go-and-stop signals were not intended for him.

It is evident that the truck can cover larger routes, frequently taking the runs of several horses. In one instance a single truck replaced a route that required six horses and, in order of time and service, enabled the driver to increase his route and yet perform the work satisfactorily. It had previously been the theory of dairy managers that a truck, in sparsely settled and new districts, would operate to advantage, but as soon as the neighborhood was built up and customers were closer together, horses should be put on. This has been found to be a fallacy. In a recent example, where a complete cargo was delivered to a large apartment house located about two miles from the distributing station, it was proven conclusively that even there a truck operated more cheaply and efficiently than the horse.

Under the old methods, distributing centers were required to serve the several communities in each district. Now, due to the truck fleet, these are being eliminated, five having been cut out during the past year. The saving here is considerable, for each distributing station likewise had to have stables and extra help to care for the horses. Some distributing branches will still have to be maintained, but not for the same reasons that they existed before nor in such large numbers.

When it comes to considering the time element and making comparisons, the truck is found to be superior in many ways. In a recent test made in a hilly section of the city where it was thought that a horse was indispensable, the driver wore a pedometer and took his route as usual. There were many times that, rather than tire the animal, he would climb a hill himself or walk out of his way a block because it was difficult for the horse to negotiate the hillsides and make the turns. A truck was then used, and it was found that not only was the delivery made in shorter time, but that the driver had actually saved five miles in walking. The time saved in going and coming to and from a run is taken for granted, but it has been likewise shown that when on delivery the truck could make the rounds in shorter time.

Some still think that there is a distinct advantage for the milkman being able to call his horse, which follows him along the street while he cuts across lawns and works parallel, thus saving many steps. Although there are delivery men who still regard this as an advantage, the vast majority prefer the trucks. With the change



ONE OF THE LATEST HOUSE-TO-HOUSE MILK DELIVERY JOBS USED BY WESTERN DAIRY PRODUCTS, INC., CALIFORNIA. IT IS A DIVCO, EQUIPPED WITH A SPECIAL BODY OF THE CANOPY-TOP EXPRESS TYPE

in conditions, the following-along method is meeting with more and more difficulties. In most cities there are ordinances forbidding a horse in the street unless it is hitched in some manner. This would automatically prevent him from obeying the beck and call of the driver. A device is generally used which pulls back on the reins when the animal starts ahead, supplanting the old method of rope and deadweight. But, even if the horse is given freedom to follow along, there is much danger that he will hook a wheel of the wagon onto the fender of a parked automobile, block the traffic, get into the way of an approaching car, nibble the shrubbery along the curbing, and a dozen other possibilities that eventually will bring damage costs and incur the wrath of customers.

An interesting angle was brought to light recently on the customer's attitude toward the horse. Time was when our grandfathers heard the clattering of a horse's hoofs in the early morning and thought nothing about it, because he was used to it and took such matters for granted. Today the light sleeper is not awakened by the starting of an automobile or the passing of a truck because he, too, is used to such things. But the clatter of hoofs is almost certain to awaken him from sleep. Many of our customers vastly prefer the sound of a motor to the pounding of shodden hoofs.

The upshot of all this is that the horse, as a power in the delivery service of the industry, is proven to have lost his standing. It is nothing against the horse, but rather a change that modern conditions have brought about. I am a lover of horses myself, and my family were horsemen, but the times have changed and reduced the usefulness of horses in industry. Such being the case, trucks are rapidly being substituted. In line with this there is the important element of keeping pace with the general progress, which means that the service still employing horses is looked upon by the public as a back number.

During the past eight years that I have been interested in this work, I have seen the trend that called for the use of the truck in

TURN TO PAGE 56, PLEASE

## DAIRY HORSES MUST GIVE WAY

COUNSEL BY

# OVERLOADING ALWAYS EXACTS ITS PENALTY



B. A. GRAMM  
President  
Gramm Motors, Inc.  
Delphos Ohio

Owners Cannot Avoid Higher Cost of Operating Trucks Which Are Too Light, Too Heavy, Too Small or Too Large

Obviously, to secure economical truck transportation, both the operator and salesman must carefully analyze the delivery requirements of a given operation and then apply the equipment best adapted to meet those requirements.

A mover a few weeks ago telephoned one of our branches about 11 o'clock at night for assistance. He had a breakdown and was compelled under contract to deliver a six-ton casting 60 miles away before daylight. He was using a small trailer and a light 1½-ton truck as a tractor. The overload cost him plenty. He not only lost the profit he would have made for the haul, which was absorbed by the three-ton truck loaned him, but incurred an unnecessary repair expense and tied up his equipment while it was in the shop.

Overloading can frequently be avoided by properly distributing the load on the truck chassis. For example, a short wheelbase truck with its load carried entirely on the rear axle is improper distribution, as is the placing of the heavier part of the load next to the cab on a long wheelbase job. Proper distribution involves consideration of such factors as wheelbase, overhang, load space and length and width of body.

Oversize tires and extra leaves in the rear springs are no answer for overloading. They only invite axle breakages, clutch trouble, transmission trouble and, above all, engine trouble, for no matter what the make of truck may be these parts are designed to meet strains up to a certain

TURN TO PAGE 56, PLEASE

OVERLOADING does not pay. It never did and never will. Instead of showing net profit, hundreds of companies still indulging in the practice only succeed in smearing their operating figures with red and naively wonder why. They persist in the idea that by piling the largest possible load on a given truck per trip is economy. Even though the reverse has been proved time and time again, the practice, strangely, continues and the operator complacently struggles along doling out dollars and worrying himself grey.

Only two persons can be responsible for the practice, the operator or the truck salesman, or both. When the operator is at fault it is because of a desire to keep down first cost or through sheer ignorance as to the ultimate effects; and when the salesman falls it is because he is anxious to close the deal above everything else, because he has not the courage to gainsay unsound operator demands, or because he is not equipped to do a correct transportation selling job.





MAKE MONEY  
FROM  
MAINTENANCE

May, 1930

*The Commercial Car Journal  
and Operation & Maintenance*

# UNEMPLOYMENT IS AN OLD SHOP SPECTER

Idle Mechanics Feast on Profits, Your Own Census Will Show, and a Way to Keep Them Out of This Costly Bread Line is to Sell Service as Aggressively as New Motor Trucks Are Sold

HOW can a shop fail to make money on several hundred jobs, each one of which shows a profit? The reason is a condition which explains why many shops do not show earnings which their owners rightfully expect and some shops make no profit at all. Technological unemployment may be the cause. This high-compression eight-cylinder term, which is not as complicated as it sounds, denotes temporary idleness of persons having regular jobs. It applies to workers in a factory which is operating only three days a week, to structural steel workers on a rainy day, or workers on a strike.

Speaking in shop terms, it means temporarily unemployed employees, such as mechanics waiting for assignment to jobs, a car washer with nothing to do or a painter waiting for mechanical repairs to be completed before he starts painting a truck. Idleness may exist even in very busy shops. There may be a rush of work for a week or two and then a lull. Overtime may be followed by a time when work is slack, in fact, the old adage "It never rains but it pours" applies very well to the volume of service business coming to repair shops.

A remedy for unemployment is to find work and the remedy for technological unemployment in a shop is to sell service of that shop. No live truck sales organization relies solely upon sales to prospects who happen to drop in to a salesroom. On the contrary, truck dealers and salesmen seek out prospects wherever they may be found, irrespective of the hour of day, condition of weather, season of year or gyration of the stock market.

Why should a wait-until-they-come-in policy which would not sell a truck in six months be considered suitable for shop management? Like a calm following a storm is the contrast, in many establishments, between the energy put forth to sell a new truck

and the tranquil waiting for service customers to present themselves. More than a few dealers who fight for an order to the last word of entreaty and the last dime of trade-in allowance devote none of their talents to securing service customers.

Quite different is the situation in many other establishments. Patrons of the shops are pursued and won with the same diligence and skill which characterize work of star salesmen. Once enrolled as customers, truck owners are kept in the fold by good service, an overworked term which has lost none of its significance to shop men. The winning and retaining seemingly please the truck owner and add to dealers' bank accounts—and who asks more of any business policy?

A striking illustration of what can be done to overcome unemployment in the shop was shown during the time Ford was out of production due to change from Model T to Model A. Ford dealers, with no cars to sell and therefore with no new service customers, devoted all of their managerial effort to building up work for service departments. Some of the dealers who had not paid any particular attention to their shops were a bit startled at the favorable results of cultivating shop trade. Dealers who were proud of their service departments, who saw to it that every customer was waited upon promptly and every repair order

handled with dispatch, found it worth while to go after owners who were not regular service customers. Small dealers who thought it all right to postpone repair jobs while shop crews unloaded carloads of new cars and trucks discovered that "service while you wait" appealed to owners. Small jobs kept a lot of mechanics busy and made a lot of money. Small jobs were not any too popular when a stock of new vehicles encroached on shop space, but with plenty of room in the shop, the small jobs were welcome. The result of dealers' interest in shops was an increase in shop business and more profit from maintenance than ever before.

Selling service actually comprises two different, but closely related, tasks. The first, that of getting more maintenance business for the shop, and the second, equally important and just as difficult, is that of smoothing out peaks and lulls in shop work to reduce idle time to a minimum and also give prompt attention to service customers.

An even flow of work into a shop has many advantages. Customers are better satisfied, mechanics are more content and profits are larger when there is about so much work to do each day. There is a profit in practically every individual job sold at flat rate prices, or at hourly rates by a well-equipped and managed shop. It is idle time that eats into profit. Even a large volume of business may

be made up of rush periods interspersed with idle time. It takes careful and alert management to fill in the dull periods and prevent, as much as may be, overtime work.

Not the least of the disadvantages of too much work one day and too little the next is that it dissatisfies mechanics. A shop man likes a steady income just as much as any other workman. He likes to keep social engagements, to be able to keep his promise to take the kiddies to the movies. Good mechanics are attracted to busy shops and they are essential to any successful shop.

Many factories are constantly calling the attention of their dealers to the necessity of selling service. Much was said on this subject during the automobile shows early in the year and the message is being carried on by letters, bulletins and personal contact of factory roadmen.

A continuous follow-up is an effective means of selling service. It is based upon an individual record of work performed upon each truck kept in the service station. The record may be upon cards, plain or specially printed, loose leaves in a book or in a bound book. Free inspections during the guarantee period comprise the first entries, all guarantee work and policy adjustments are noted and a running record of inspections and shop orders is maintained.

Period of follow-up varies according to circumstances. If an owner sends trucks in for in-

spection regularly every month, a call may be made within a day or two after the regular date, if the truck fails to appear. Many service managers follow up owners at regular intervals whether or not trucks come in for maintenance by making calls every 30 or 60 days according to a regular schedule.

A tickler file of maintenance record cards provides a simple means of following up at stated intervals of time. After a call is made cards for the owner called upon are filed under the date the next call is to be made, making an automatic reminder. Follow-ups may be made by telephone, personal calls, letters or postal cards.

Serving an instruction book on an owner, or his truck service man, like a subpoena, a few days after a new truck is delivered, is a method used by a dealer to build up goodwill and business for his shop. The call is made by the service manager and he tells the owner of the new truck about changes in maintenance of the new model. He points out certain precautions which should be taken and explains the facilities of the shop for performing various operations depicted in the book.

Preventive maintenance business may be cultivated to the profit of the shop. In this classification come those jobs which, like the "stitch in time," are performed in advance of trouble. Lubrication, minor adjustments, general tightening and thorough inspections, which include minor repairs and adjustments, come within this classification. Because the jobs are done before noise or faulty operation develops it takes effort to sell them. It requires no service salesman to convince an owner that a missing engine should be repaired, but it does take some sort of sales effort to keep owners coming in regularly to have trucks lubricated and inspected.

Retail establishments have found bargain sales good business builders and service shops are profiting by the example. Special prices on combination jobs bring in more work and may be used to fill in lulls or slack seasons. Many routine jobs can be performed a bit ahead of time or allowed to wait for a day or two without harm to the truck. By checking over trucks which are due for work within a few days and calling the owners an alert service manager can pick up work to keep his shop and mechanics busy.

## UNEMPLOYMENT IS AN OLD SHOP SPECTER



# OPERATE YOUR SHOP AS A SEPARATE BUSINESS

SAYS CHARLES H.



JACOBSEN

Service Manager

Of Moreland Motor Trucks  
Los Angeles, California

## And Make Your Labor Charges Cover Overhead and Your Parts Represent Profit

I CANNOT understand why commercial car dealers should complain that their service departments are not making money, or when they break even, why they should feel that they are to be congratulated. We make money on our service department and if we make money I feel certain that other firms can do likewise.

The reason we make money is expressed in the first and oldest rule of good business—"We sell at a higher price than we buy." Besides we know our costs.

I think the reason many truck dealers experience difficulty in their service departments is that they do not have an efficient cost-accounting system. We operate our service department as nearly on the basis of a separate business as we can. This applies to every item of expense and cost in the servicing division.

Another thing that many dealers do is to take parts from the parts section to the service section and turn them in at cost to the customer. This practice costs money and is poor business. Our service department must make money on parts, for that is where our profit is derived. We figure that the labor charge will take care of the overhead and that the difference between the cost and list of parts, less 5 per cent allowed the parts department, represents profit.

We watch vigilantly all items that make up our overhead, yet we do not permit this practice to encroach on the quality of our service. Assigned as an overhead item is auto maintenance, which includes a tow truck and two outside inspectors and their cars. These men keep in constant touch with our truck owners, thereby gaining good will, more business for the service department and occasionally a truck sale. We consider the service of these men very valuable and well worth the additional expense. Constantly circulating in the field they tend to bring about a closer affinity between the truck owner and the service department. Moreover, as it is not our policy to drop a new owner

like a hot potato, these men start their contacts immediately after the sale in an effort to build a firm foundation of friendship.

Inspection expense is another overhead item, but does not amount to much. It is a fund set up to take care of such minor items as inspector, telephone calls and an occasional meal. Depreciation, of course, is fixed and takes care of the machinery and rolling stock of the department. Work coming back under our guarantee is assuredly an expense because it represents work that must be done over again. We can exercise some control over this item and manage to keep it as low as possible.

Other items included in the service department overhead are: part of the rent on the building, insurance, stationery and printing, telephone and telegraph, power, light, heat and water, taxes, salaries of everyone in the department as well as myself, some sales expense and general expense. General expense, which includes all other items of expense, is the cause of most of the grief between our department and the auditing department. Here is placed the cost of grease, rags, oil, welding gas and other necessary items. Without careful watchfulness this division will go skyrocketing.

There are 26 mechanics and helpers on the floor who draw an average monthly salary of about \$145. Two outside inspectors are paid by this department as well as seven non-productive men and women in the office and bookkeeping work of the department.

The shop force works in two shifts. The first shift comes on at 7.30 a. m. and works until 4 o'clock with a half-hour off for lunch. The second shift comes on at 1 p. m. and works until 9.30 o'clock with a half-hour for dinner. This gives us an interlocking force and a double shift during the rush period of the day. We do not work Sundays or holidays and try not to work nights unless the customer is

TURN TO PAGE 60, PLEASE

# PUT AN "OIL WELL"

Cost of reclaiming oil as reported by large and small fleet owners

Location of Fleet	Cost of reclaimed oil cents per gal.
Akron, Ohio .....	8.0
Akron, Ohio .....	10.8
Akron, Ohio .....	6.5
Chicago .....	6.4
Detroit .....	6.0
Detroit .....	5.0
Kansas City .....	8.3
Milwaukee .....	10.2 (a)
Oakland, Calif. ....	6.0
Pittsburgh .....	14.7
Report to R.D.A. ....	11½
Report to S.A.E. Comm. ....	8 to 18
Rockford, Ill. ....	9.0
Saginaw, Mich. ....	7 to 8
Washington, D. C. ....	8.0
West Chester, Pa. ....	13.0

(a) Without labor or interest on cost of outfit.

By JAMES W. COTTRELL

WHETHER or not it pays to reclaim crankcase drainings, all things considered, is a question which asserts itself whenever the subject is discussed. To answer it, two facts must be determined. First, how does reclaimed oil compare with new oil, and second, how much does it cost to reclaim oil drained from engine crankcases? Obviously, the answer depends upon the first, because it would not pay to reclaim oil no matter how little the process cost unless the reclaimed oil were a satisfactory lubricant.

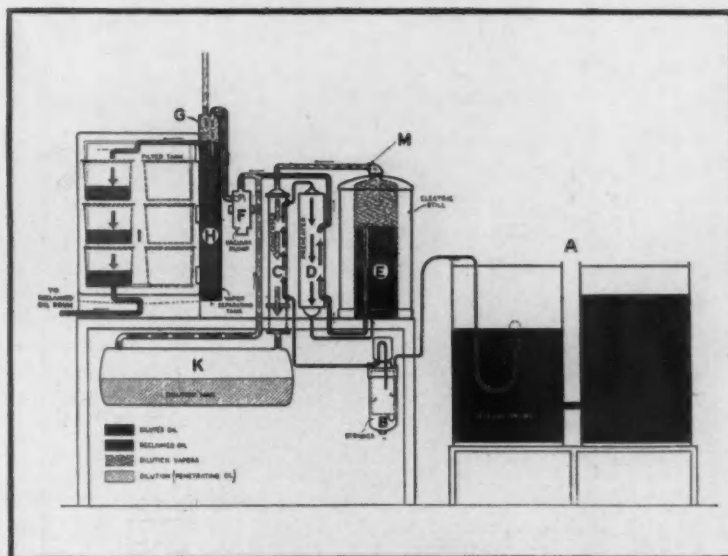
Oil reclaimers have been in use long enough to provide facts from actual experience upon which judgment of a process may be based, rather than upon argument. Individual investigations made for the Retail Delivery Association and the Transportation and Maintenance Committee of the Society of Automotive Engineers give answers favorable to oil reclaiming. Information was obtained from large and small fleet operators and from a number of testing laboratories which have conducted lengthy and exhaustive tests.



# IN YOUR SHOP

Oil Reclaimers, Users Say, Salvage Used Oil at Less Than 20 Cents a Gallon and Turn It Out as Good as New. Systems Are Available in Continuous Process and Batch Types

THE SKINNER OIL RECLAIMER OPERATES CONTINUOUSLY, EMPLOYING EVAPORATION UNDER VACUUM IN AN ELECTRICALLY HEATED STILL TO REMOVE DILUENTS AND FILTERING TO REMOVE SOLID MATERIAL. CRANKCASE DRAININGS ARE POURED INTO SETTLING DRUMS WHICH SEPARATE WATER AND HEAVY SOLID MATTER BEFORE ENTERING THE APPARATUS. INCOMING OIL PASSES THROUGH A STRAINER AND WATER SEPARATOR, B, THEN THROUGH A CONDENSOR WHERE THE OIL IS HEATED BY VAPOR FROM THE STILL AND AT THE SAME TIME ASSISTS IN CONDENSING THE VAPORS. OIL IS HEATED IN PRE-HEATER, D, AND THEN ENTERS THE ELECTRIC STILL, E. THE STILL OPERATES UNDER A VACUUM WHICH REDUCES THE TEMPERATURE REQUIRED. VAPORS LEAVING THE STILL ARE TURNED INTO LIQUIDS IN THE CONDENSOR, C, AND COLLECTED IN THE TANK, K, BELOW THE MACHINE. REFINED OIL LEAVES THE STILL, PASSES THROUGH PRE-HEATER, D, IS DRAWN INTO THE PUMP, F, AND DELIVERED TO THE TOP OF THE VAPOR SEPARATING TANK, H. VAPORS IN THE OIL ARE TRAPPED OUT AT G AND PIPED OUTSIDE THE BUILDING. REFINED OIL ENTERS THE FILTER CHAMBER AND PASSES BY GRAVITY TO THE FILTER AND INTO A SEPARATE OIL STORAGE TANK

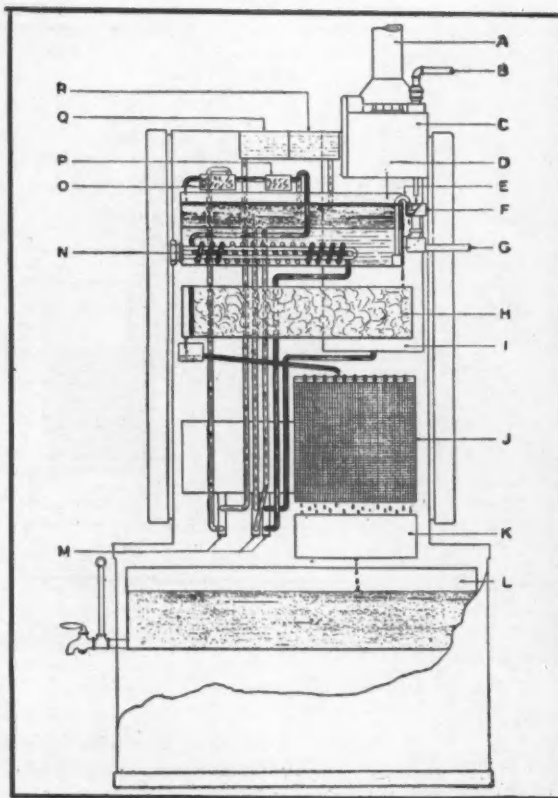
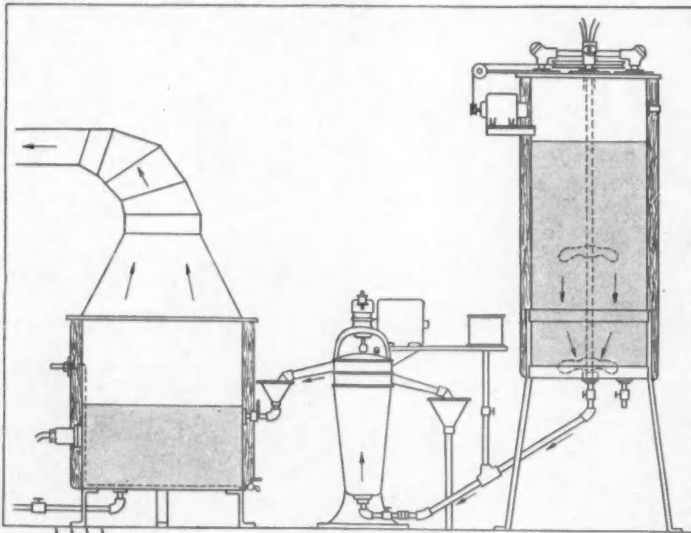


In addition to these investigations, reports are available of results of tests by large fleet operators, oil companies and other agencies.

Reclaimed oil is as good as new and money can be made by reclaiming it, according to these authorities. Many operators make no discrimination between reclaimed oil and new oil, in fact, they dump reclaimed oil in fresh oil tanks. By salvaging oil from crankcase drainings, oil is obtained at a cost ranging from 5 to perhaps 18 cents per gallon and oil at these figures is a bargain.

Adoption of oil reclaimers by a number of airports and airplane operating companies followed tests which also were favorable to the cause of oil reclaiming. Because of vital need for safety in the air, oil reclaiming would





A CENTRIFUGAL SEPARATOR AND TWO TANKS HEATED BY ELECTRIC RESISTANCE ELEMENTS ARE EMBODIED IN THE SHARPLESS RECLAIMING UNIT, MADE BY SHARPLESS SEPARATOR CO., WEST CHESTER, PA. CRANKCASE DRAININGS ARE POURED IN THE TANK AT THE RIGHT AND A CLARIFYING SOLUTION IS ADDED. THE MIXTURE IS AGITATED BY PROPELLERS DRIVEN BY AN ELECTRIC MOTOR AND HEATED BY ELECTRIC ELEMENTS. THE MIXTURE IS THEN RUN INTO THE CENTRIFUGAL SEPARATOR WHICH SEPARATES OIL FROM THE SOLUTION CARRYING CARBON AND OTHER IMPURITIES. CLEAN OIL IS DISCHARGED FROM A SPOUT INTO THE TANK, SHOWN AT LEFT OF SEPARATOR, AND SOLUTION INTO ANOTHER SPOUT LEADING TO A DRAIN. DILUTION IS REMOVED IN THE STILL BY HEATING AND AERATION, THE LATTER BY PASSING AIR THROUGH THE OIL. FUMES ARE PIPED OUTDOORS

THE REFINORIL APPARATUS EMPLOYS A CONTINUOUS PROCESS OF ALKALI TREATMENT FOR REMOVAL OF SOLIDS AND EVAPORATING DILUENTS BY RUNNING OIL IN A THIN FILM OVER ELECTRICALLY HEATED PLATES IN A STRONG DRAFT OF AIR. CONCENTRATED SILICATE OF SODA, COMMONLY CALLED WATER-GLASS, AND ANOTHER REAGENT ARE MIXED WITH INCOMING OIL AND PASSED INTO A TANK OF WATER. THE SILICATE OF SODA REMOVES SOLID MATTER AND FORMS A DENSE SLUDGE WHICH SINKS OUT OF THE OIL INTO THE UNDERLYING BODY OF WATER. WATER IN THE TANK IS KEPT FLOWING CONSTANTLY WHICH FLUSHES THE SLUDGE INTO THE DRAIN. A SIMPLE FILTER, H, OF CHEAP MATERIALS REMOVES ANY FRACTION OF THE SLUDGE WHICH FAILS TO PRECIPITATE IN THE TANK. THE CLEAR OIL THEN FLOWS OVER PLATES, J, SWEEPED BY A DRAFT OF AIR, PREHEATED BY HOT OIL IN THE HEAT INTERCHANGER, K, AND FINALLY PASSES INTO STORAGE TANK, L.

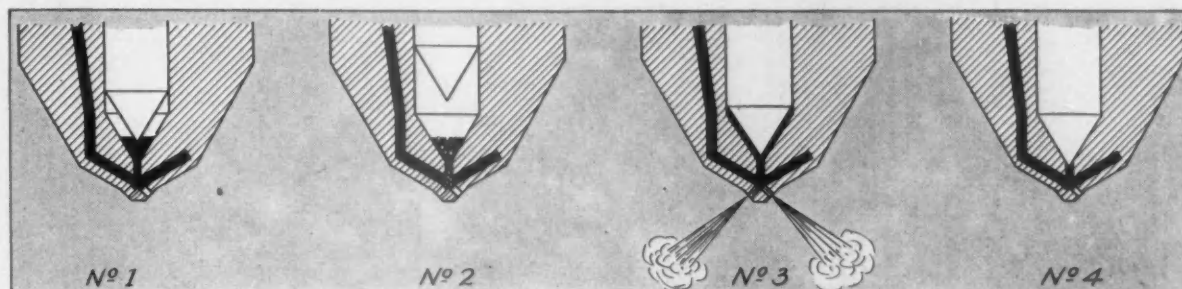
not be considered for this service if it did not turn out a product which was known to be satisfactory in service.

A reclaimed oil which is as good as new can be produced by properly removing dilution and foreign matter from used oil, in the opinion of E. S. Pardoe, superintendent of Bus Operations, The Capital Traction Co., Washington, D. C., who made a survey for the S. A. E. Transportation Committee. He states that reclaimed oil is added to new oil in storage tanks, without discrimination. J. R. Kreisa, Coca-Cola Bottling Co., New York, reported to the Retail Delivery Association that reclaimed oil is better than new oil because weaker parts of the oil are attacked by heat and decomposed, leaving an oil of much higher resistance.

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PUT AN "OIL WELL"  
IN YOUR SHOP

# CUMMINS DIESEL USES LOW PRESSURE METERING

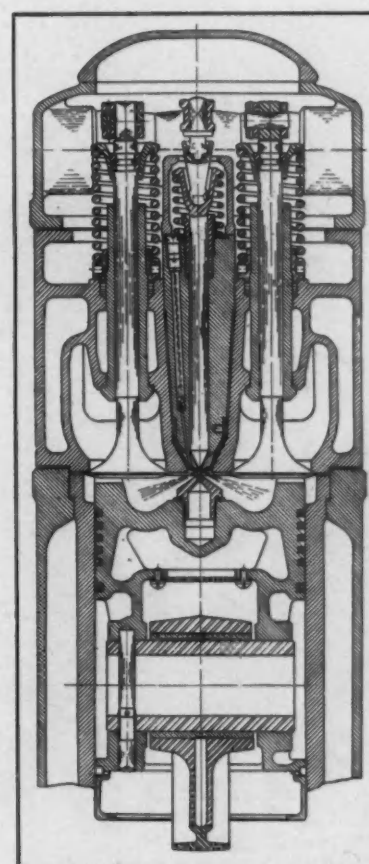


## Measured Fuel From Single Pump is Forced Into Cylinders By Individual Plungers

CUMMINS ENGINE CO., Columbus, Ind., manufacturer of Diesel engines for stationary and marine service, is developing a truck type engine which incorporates the same principle of fuel injection as the heavy-duty engines. To test the fuel system under road conditions a four-cylinder marine type engine was installed in a passenger car and driven to the New York Show by C. L. Cummins, president of the company, and in a sport roadster which made better than 80 m.p.h. at Daytona Beach, Fla., and a high-speed engine will be entered in the Indianapolis race on Memorial Day.

Fuel system of the Cummins engine embodies one valveless plunger pump with variable stroke, a mechanical distributor which directs oil to the cylinders in turn and a plunger for each cylinder to force the metered discharge from the pump and distributor into the combustion chamber. The valveless pump is supplied with oil by a gear pump maintaining pressure of the order of 50 lb.

Oil is heated and mixed with a small amount of air in an injector in the top of each cylinder before being forced into the cylinder. The injector, as shown in accompanying illustration, comprises a casting with a fitted plunger which is operated by a rocker arm and push rod like a valve. Two cups, an inner and outer, on the end of the injector provide an annular space for oil and passages for flow of oil. On suction stroke of the engine the fuel pump forces a charge of oil, of the right amount, into the injector and this causes oil in the injector, which is preheated by remaining in the injector for three previous cycles of the engine, to flow into the annular space and into the inner cup chamber. Fuel does not flow into the cylinder through the nozzle because the plunger is moving upward and creating a vacuum which holds the fuel in the chamber. On the compression stroke the highly heated compressed air is forced through open nozzles up through this preheated fuel. This action causes cracking of the fuel. At the end of the compression stroke the plunger depresses, raising pressure above that in the combustion chamber and driving the charge out into the compressed air, where it burns. The cam operating the plunger is shaped to deliver fuel as fast as it can be burned.



TWO VALVES, AIR INLET AND EXHAUST, AND PLUNGER IN CYLINDER HEAD OF CUMMINS ENGINE ARE OPERATED BY PUSH RODS. THE PISTON IS CUP-SHAPED ON TOP TO PROVIDE TURBULENCE IN THE AIR UNDER COMPRESSION. THE PLUG IN CENTER OF PISTON IS A "CUP-WIPER" WHICH INCREASES TURBULENCE PARTICULARLY ABOUT THE DISCHARGE NOZZLE IN THE CYLINDER HEAD

ON INTAKE STROKE OIL ENTERS CHAMBER WHILE PLUNGER MOVES UPWARD, NO. 1. ON COMPRESSION AIR IS FORCED THROUGH OIL, NO. 2. COMBUSTION TAKES PLACE WHEN PLUNGER INJECTS FUEL INTO CYLINDER, NO. 3. DURING EXHAUST STROKE PLUNGER SEATS AGAINST INNER CUP AND FUEL IS BEING HEATED IN ANNULAR CHAMBER NO. 4

# IT TAKES STUFF TO FAN FLEET BUYERS

NOW PITCHING



E. C. WOOD

Transportation Supt.

Pacific Gas & Electric Co.  
San Francisco California

FLEET buyers, says this fleet superintendent, are impressed by salesmen who know their product, are familiar with specifications, impartially recommend equipment that fits the job, view transportation problems from the operator's standpoint, and finally help them to a solution of those problems. The writer speaks with authority.



EVERY truck salesman wants to sell the fleet operator. And why shouldn't he? The fleet operator represents a big sales opportunity involving thousands of dollars and big commissions, not to mention great prestige to the salesman closing the deal. In my opinion no great difficulty confronts the salesman anxious to consummate this ambition.

Selling a truck to a fleet operator should be no more difficult than selling a truck to any other individual. The method of diagnosing problems of transportation, whether the operator be small or large, is fundamentally the same and the truck salesman who is equipped to do a good transportation selling job in a small way need have no qualms about approaching the larger fleet operator.

The only flies in the ointment, if they may be considered as such, are variables that apply equally as much to the small truck prospect as to the fleet operator. Those variables are the personality and experience of the prospect. They are not peculiar to the fleet-operator and are met in every-day selling. The wise salesman quickly senses such differences and almost unconsciously takes them into consideration in his solicitations. In my opinion truck salesmen might

profitably divide fleet operators into the following six groups, which they should bear in mind when developing their sales technique:

1. The buyer for a large fleet. This man has a wide knowledge and experience and the salesman knowing transportation has little difficulty here.

2. The experienced fleet operator whose judgment is guided solely by the performance of the equipment he has operated in the past and by what his friends tell him. This buyer lacks technical knowledge and the truck salesman may experience a little difficulty in making him see and appreciate various changes in design, materials, etc., which might cut operating costs.

3. The fleet operator who buys on price only. This type of operator sincerely believes that all equipment is on a par as to quality of material, engineering and design. The salesman's biggest obstacle here is to overcome a determination to secure the biggest possible discount with a maximum trade-in allowance for old equipment.

4. The buyer who employs trickery. This man carries an ace up his sleeve. He will figure with every truck representative, bid him down to the lowest possible figure and then spring a trade-in—generally a piece of junk on

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## HEY THERE!

AT the moment of writing, yours very truly is looking for some cotton to deaden the deafening roar of mingled snores. If you had our viewpoint you'd know that the snoring is coming from exclusive truck manufacturers, who for some time have been sound asleep at the switch.

To get our viewpoint, just turn to page 15 of this issue, and read this statement in the first paragraph of the article by L. B. Bevier, fleet manager of the Western Dairy Products, Inc., of Los Angeles, Calif.: "The horse-drawn vehicle is passe in the dairy industry for house-to-house delivery, as well as for long-haul transportation, and two short years will see the accomplishment of the complete changeover."

What Mr. Bevier says is credible, and yet what are exclusive truck manufacturers doing to grab this highly important door-to-door delivery market—a market requiring a special type of equipment which combination passenger car and truck manufacturers cannot put out because of their production

# AFTER HOURS

set-ups? So far as we have been able to ascertain they have been doing nothing—nothing, that is, but admitting that the market is a good one, and then permitting outsiders to beat them to it.

This alertness is greatly to the credit of the outsiders, and deserves a reward which some already are reaping, and others surely will because of the excellence of their vehicles. But there still is room for more competition. It's not too late for truck manufacturers to break into this market, and land new accounts and compete for replacements. The field offers a splendid opportunity for the progressive truck manufacturers to win their way back to positions which suffered a slight attack of fallen arches, under the weight of Ford and Chevrolet competition.

To avoid any suspicion that the writer himself is contributing a stentorian nasal to the snoozing chorus, he wishes to testify to his awakesness by declaring that his numerous inquiries among manufacturers netted him some very hopeful information: that one exclusive truck manufacturer flirted with plans for a door-to-door delivery unit, and then flung them into an ash-can, and that another has advanced so far with its plans that an announcement before fall is not at all unlikely.

For the honor of the old school we hope more than one company will pole out a homer in the door-to-door delivery field this year, without waiting for the bases to get full.

## BULLETINS

OUT in Detroit we ran across a report that the Ford Motor Co. was planning to build its own truck bodies. The dealer discount, they say, will be 17½ per cent. This may be

good news to Ford dealers—and heavens knows they deserve a break—but it may mean Seidlitz powders for those body builders who put all their eggs in the Ford basket.

Quite a number of eight-cylinder trucks will be making their debut next year, we understand. The truck factory men we talked with all recognized the trend in this direction because of the demand for high-power, high-speed operation. Diesels for truck use are not being overlooked, and we learned enough to add one more engine manufacturer to the list of those working out a truck Diesel.

Production of rigid six-wheel trucks will run about 3000 this year. That's just about triple the 1929 output. A glance through this issue will convince you of the industry's activity along six-wheel lines.

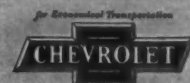
While replacement demand for truck balloon tires still is negligible, the growth of the tendency toward truck balloons is indicated by the original equipment orders being placed with tire manufacturers by truck makers. Last year pneumatic truck tire production was split about 75-25, with high pressures on the long end of the percentage and balloons on the short. This year, according to rough estimates, production is expected to be 50-50 and next year 25-75, with balloons on the long end.

Axle manufacturers, you may be assured, are not overlooking the drift, and may be expected to present some progressive developments.

While in Detroit, we even found one truck executive who was all hopped up over the possibilities of the front-wheel drive for motor trucks.

All of which is proof—if you need any—that the truck industry is moving fast, and if you stand still you are liable to get run down.—G. T. H.

# The New Six Cylinder CHEVROLET TRUCKS



## Outstanding Economy Reduced Prices . . . Low Operating Cost

Year after year, Chevrolet trucks have been constantly winning greater favor because of their remarkable economy of ownership and operation. But never has Chevrolet's famous economy been so outstanding as it is today.

For, with all their greater power, strength and stamina—the new Chevrolet six-cylinder trucks are lower in first cost—and even more economical to operate and maintain!

Both the Light Delivery and the 1½ Ton Truck Chassis are now available at greatly reduced prices.

The great 50-horsepower six-cylinder valve-in-head motor

delivers amazing economy of both gasoline and oil. The sturdier rear axle—the refined 48-pound crankshaft—and many other factors of strength, reliability and long life—result in greater day-after-day dependability. And Chevrolet standardized service—with its low flat-rate charges for every service operation—means an added saving in the cost of maintenance.

Before you invest in your next motor truck—see your Chevrolet dealer and arrange for a trial load demonstration.

You'll find that from every standpoint the new Chevrolet six-cylinder trucks set a new standard for the low-price commercial car field.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN  
Division of General Motors Corporation

The Utility  
1½ Ton  
Truck **\$520**  
(Chassis Only)  
The Utility 1½ Ton Truck **\$625**  
(Chassis with Cab)



The Light  
Delivery  
Truck **\$365**  
(Chassis Only)



The  
Roadster  
Delivery (Pick-up box extra) **\$440**  
The Sedan Delivery (Body by Fisher) **\$595**  
All prices f. o. b. factory  
Flint, Michigan

A SIX IN THE PRICE RANGE OF THE FOUR

The Commercial Car Journal  
and Operation & Maintenance

May, 1930



# SERVICING OVERHEAD

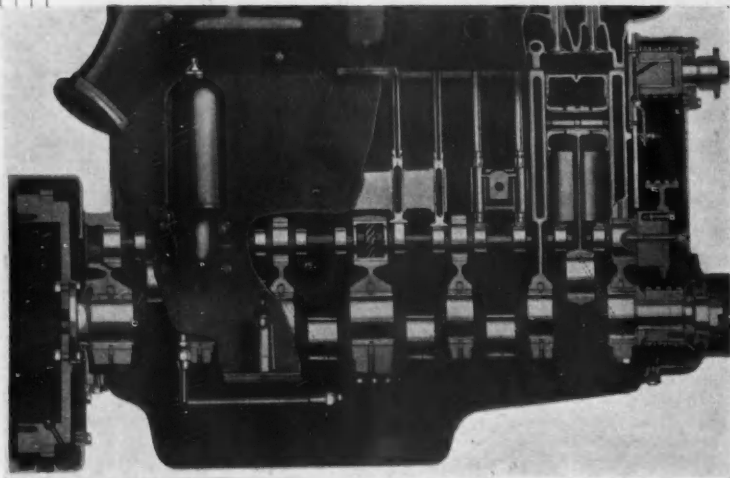
Clearances and Adjustments in Models  
16R, 18R, 20R and 21R Are Uniform

CONTINENTAL overhead valve engines, designated 16R, 18R, 20R and 21R, embody the same design and construction, differing only in dimensions. Because of this uniformity, many clearances and adjustments in maintenance are common to all four models.

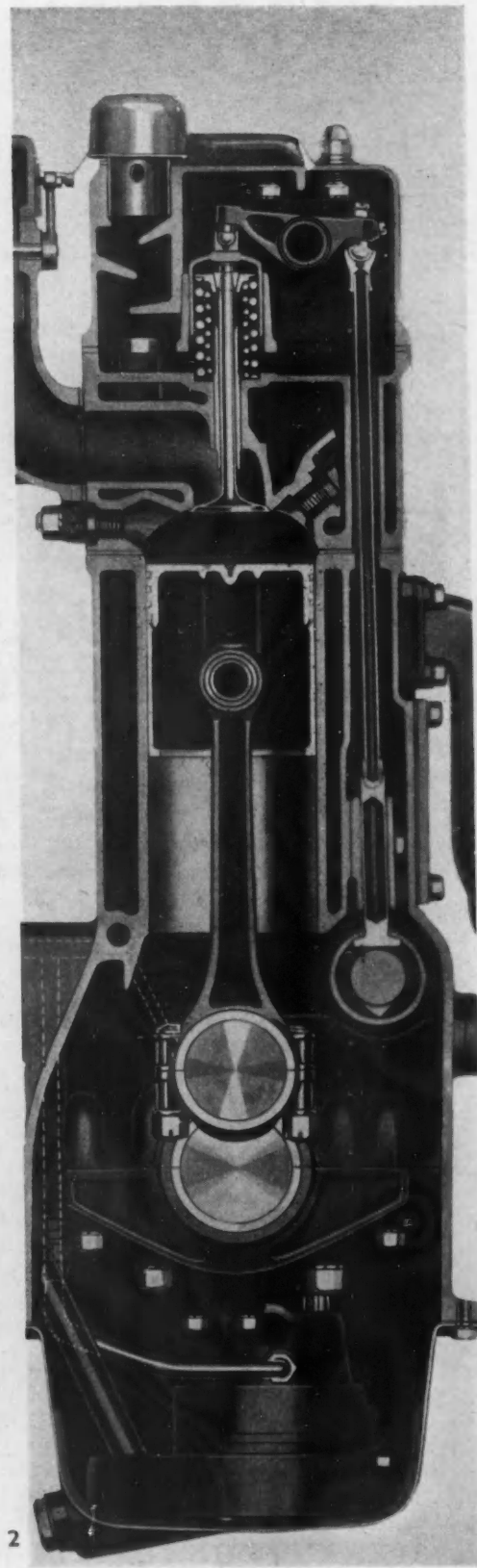
Clearance for connecting rods is not only the same for all engines in this series, but is the same as that of main bearings through the series. Likewise, thickness and number of shims are uniform for all connecting rod and main bearings.

Similar uniformity is found in piston pins, one size being used for all engines. Although camshaft bearings vary in size, with largest at front, bearings in the same position are uniform throughout the overhead valve R series.

Clearances and adjustments recommended by the Continental factory for maintenance work on these engines are given with the accompanying illustrations.

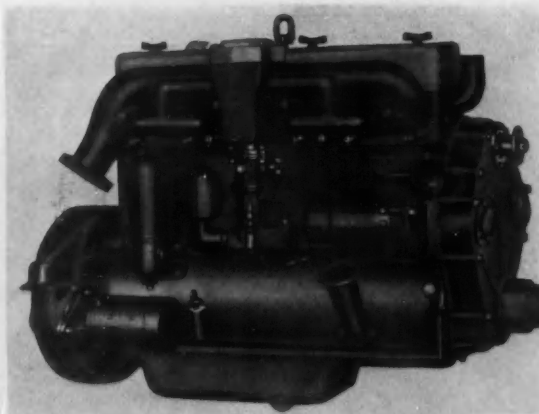


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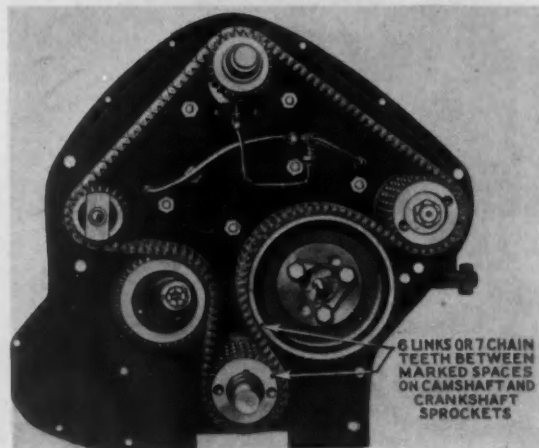


The Commercial Car Journal  
and Operation & Maintenance

# VALVE CONTINENTALS



3



4

LINKS OR CHAIN  
TEETH BETWEEN  
MARKED SPACES  
ON CAMSHAFT AND  
CRANKSHAFT  
SPROCKETS

CLEARANCES FOR 16R, 18R, 20R AND 21R ENGINES, SHOWN IN FIGS. 1 AND 2. UPPER HALVES OF SEVEN MAIN BEARINGS ARE BRONZE-BACKED DOWELED INTO CRANKCASE. LOWER HALVES ARE BRIDGE TYPE. CONNECTING ROD LOWER BEARINGS ARE SPUN INTO RODS. DIAMETRAL CLEARANCE OF BOTH MAIN AND CONNECTING RODS SHOULD BE .0015 IN. ADJUSTMENT IS BY SHIMS, TOTAL THICKNESS, .008 IN., MADE UP OF FOUR .002-IN. SHIMS. FRONT MAIN BEARING CONTROLS END PLAY OF CRANKSHAFT, WHICH SHOULD BE .006 IN. END CLEARANCE OF OTHER BEARINGS IS 1/16 IN.

LOWER CONNECTING ROD BEARING SIZES ARE: 16R, 2.375 IN.; 18R, 20R, 21R, 2.500 IN. CAMSHAFT BEARINGS ARE STEPPED IN SIZE FRONT TO REAR, REAM TO THESE SIZES: FRONT, 2.1875 IN.; SECOND, 2.125 IN.; THIRD, 2.0655 IN.; FOURTH, 2.000 IN.; REAR, 1.875 IN.

END PLAY OF CAMSHAFT, 1/8 IN., IS CONTROLLED BY A SPRING PLUNGER. CAST-IRON PISTONS ARE EQUIPPED WITH FOUR RINGS ABOVE THE PISTON PIN. STANDARD SIZES OF PISTONS ARE: 16R AND 18R, 3.995 IN.; 20R AND 21R, 4.120 IN. PISTONS ARE FURNISHED IN .002, .003, .005 IN. OVERSIZES AND IN STEPS OF .005 IN. TO .060 IN. OVERSIZE. CLEARANCE IN CYLINDER IS .005 IN.

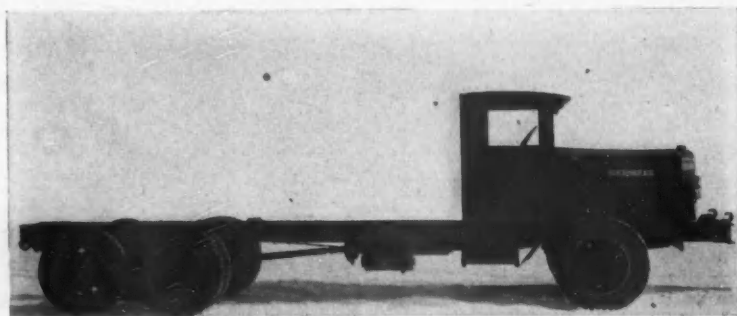
PISTON PINS WHICH FLOAT IN PISTONS AND IN BRONZE BUSHINGS IN CONNECTING RODS ARE HELD IN PLACE BY RETAINING RINGS FITTED IN GROOVES IN PISTON AT EACH END OF PIN. REAM TO 1.250 IN. TO INSTALL STANDARD PIN. PINS ARE FURNISHED IN 3, 5, 10 AND 15 THOUSANDTHS OVERSIZES. INTAKE AND EXHAUST VALVE GUIDES ARE REAMED .3737 IN. TAPPET CLEARANCE: INLET, .010 IN.; EXHAUST, .012 IN. GENERATOR, WHICH IS DRIVEN BY FRONT END CHAIN, MAY BE REMOVED WITHOUT DISTURBING VALVE TIMING. TIMING IS SHOWN IN FIG. 4, ABOVE. THE OIL PRESSURE REGULATOR IS BELOW GENERATOR. FIG. 3. OIL PRESSURE SHOULD BE 10 LB. AT 400 R.P.M. AND 40 LB. AT 2500 R.P.M.

# HUG 10-TON UNIT TOWS EQUAL LOAD



## Specifications of Hug 98

Capacity, carry .....	10 tons
Tow .....	10 tons
Engine, make .....	Buda
Size .....	6-4 1/4 x 6 in.
Transmission, make .....	Brown-Lipe
Mounting and speeds .....	amidships 7
Rear axle, make .....	Wisconsin
Drive .....	double-reduction
Extra axle .....	dead
Service brakes .....	Westinghouse
	air, 4-wheel
Hand brake, location .....	propeller shaft



POWER IN THIS TWO-WHEEL DRIVE SIX-WHEEL HUG IS TRANSMITTED FROM A BROWN-LIPE AMIDSHIPS SEVEN SPEED GEAR-SET TO A WISCONSIN DOUBLE REDUCTION REAR AXLE THROUGH A BLOOD BROTHERS PROPELLER SHAFT. THE AUXILIARY AXLE IS MOUNTED TO THE REAR OF THE DRIVE AXLE

Two-Wheel Drive Six-Wheeler  
Propelled by 126 Hp. Six-  
Cylinder Buda Engine

**A**DDITION of a new 10-ton, two-wheel drive, six-wheel model to the Hug line has been announced by the company. The new truck, known as Model 98, is designed to carry a chassis payload of 10 tons and draw a trailer of equal capacity, making a combined total load for chassis and trailer of 20 tons. It is equipped with a six-cylinder Buda engine, seven-speed forward and two-speed reverse Brown-Lipe transmission, Wisconsin double reduction rear axle, auxiliary dead axle and Westinghouse air brakes on four rear wheels.

The Buda GF-6 L-head engine has 4 1/4-in. bore and 6-in. stroke, developing 126 hp. at 1850 r.p.m. Lubricant is forced by a camshaft driven gear pump through seamless tubing cast in the crankcase to all crankshaft, camshaft and connecting rod bearings. The crankshaft is carried in four bearings and the crankcase is divided horizontally 4 in. below crankshaft center. The engine is fitted with an oil filter and a built-in governor. Ignition is furnished by a Robert Bosch high-tension dual magneto with impulse coupling. Starting and lighting is furnished by Prest-O-Lite equipment.

Gasoline is fed by vacuum from a 35-gal. tank located under the seat to a Zenith carburetor furnished with an air cleaner. The cooling system includes a tubular type Young radiator having an aluminum cast shell.

Westinghouse air brakes acting on four wheels are standard on this model. Tru-Stop 16-in. disk brake mounted on the propeller shaft is employed for hand braking. Front springs are semi-elliptic and the rear, Hug multi-cushion triple compensating type.

Standard equipment includes cam and lever Ross steering gear, heavy channel bumper made integral with the frame, and a closed coupe cab.



# STRAIGHT-EIGHT DRIVES WARD LAFRANCE "BUSTRUK"

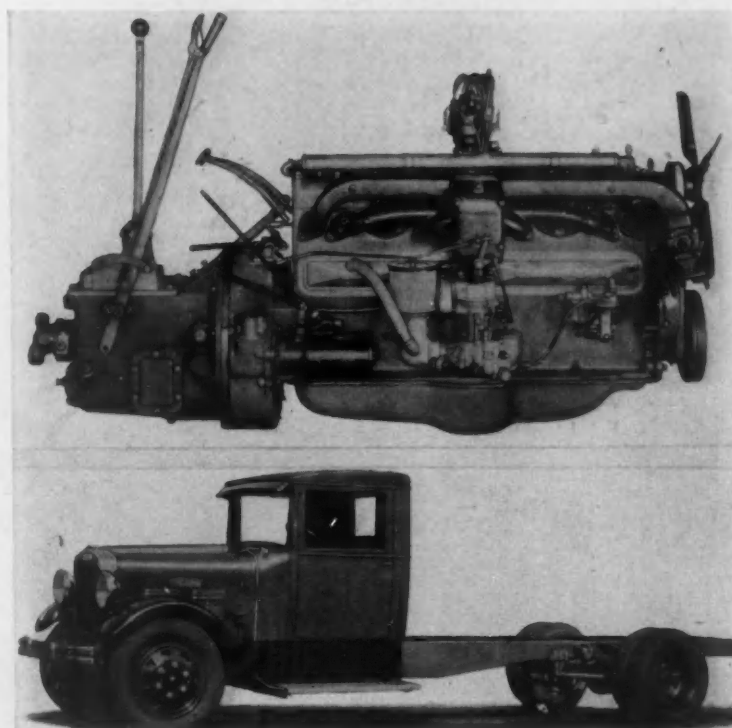
High-Speed Unit Embodies Outriggers for Van or Bus Use or Cab for Truck Service

THE eight-cylinder "Bustruk" chassis offered by Ward LaFrance Truck Corp., Elmira, N. Y., which has a vehicle gross weight rating of 13,000 lb. and tonnage rating of 3 tons, is priced at \$3,150 f.o.b. factory as standard truck and \$3,250 when furnished with outriggers and side-mounted gasoline tank for van or bus use.

Bodies 12, 14 and 16 ft. long are accommodated on wheelbases of 178½, 194 and 206 in. respectively. Frames are drilled and hot riveted and have tapered outside reinforcing plates 12 in. deep and inside reinforcing plates at the rear. Front end of the frame is designed to prevent shimmy. A tubular cross member is placed at the front, angle reinforcements are attached to the frame and the forward support for the running board is gusseted to the frame to form a cross member at rear engine support.

De luxe finish is standard on the engine, including nickel-plated parts and vitreous enamel on manifold. Cylinders are 3¾ by 4½ in., giving piston displacement of 322 cu. in. and developing 110 hp. Pistons have four rings each, and, like the cylinders, are of alloy grey iron. Exhaust valves are silchrome and inlets chrome-nickel. Ignition is by Delco-Remy duplex distributor with two coils, each supplying four cylinders.

Transmission is a four-speed Brown-Lipe 314, mounted in unit with engine and Brown-Lipe 12-in. single-plate clutch. Front and rear axles are Timkens, the rear being full-floating bevel gear drive connected to frame by radius rods. Lockheed hydraulic four-wheel brakes are operated by B-K vacuum amplifier. Springs are of cup-center type and a non-chattering plate is employed on ends of the progressive flat-end type rear springs. Semi-elliptic auxiliary springs are placed above the main springs.



EIGHT-CYLINDER ENGINE 3¾ BY 4½ IN., EMBODIES CRANKCASE VENTILATION BY CONNECTION TO VALVE CHAMBER, MECHANICAL FUEL PUMP, AND DUPLEX DISTRIBUTOR. PISTONS ARE GREY IRON

WHEELS ARE BUDD VENTILATED DISKS, CARRYING 7.50/20 BALLOONS, SINGLE FRONT AND DUAL REAR. B-K VACUUM AMPLIFIER IS USED. COUPE CAB, OPTIONAL AT EXTRA COST, HAS LEATHER UPHOLSTERY

## Specifications of "Bustruk"

Model .....	25B
Price, standard .....	\$3,150
Bus or van type .....	\$3,250
Capacity .....	3-ton
Gross weight .....	13,000 lb.
Engine .....	8-3¾ x 4½ in.
Transmission, make .....	Brown-Lipe
Speeds and mounting .....	4-unit
Rear axle, make .....	Timken
Type .....	full-floating
Drive .....	bevel
Brakes .....	Lockheed 4-wheel hydraulic with B-K booster

Detailed specifications of model 25B will be found in table starting on page 65.

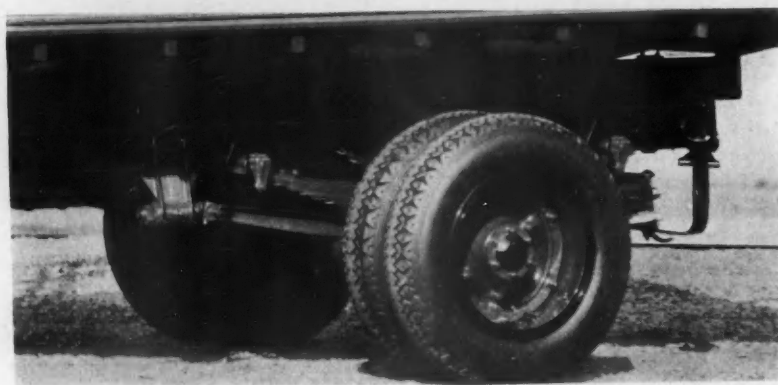
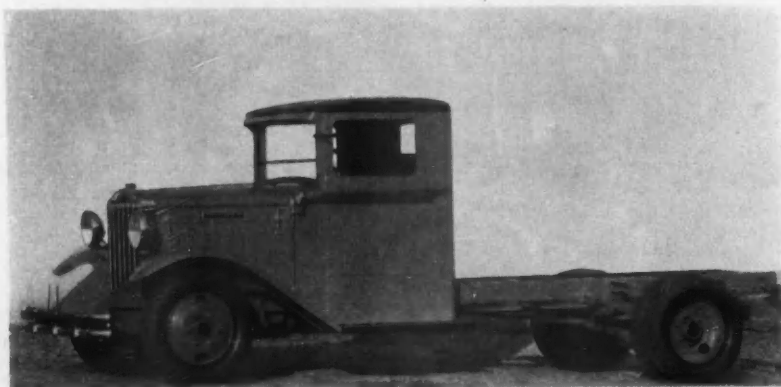
# DIAMOND T MAKES LINE STILL BETTER LOOKING

## Specifications of Diamond T Models

Model .....	303	551	503	602
Price .....	1,745	\$2,250	\$2,650	\$3,440
Capacity .....	2-ton	2½-ton	2½-ton	3-ton
Engine, make .....	Hercules	Hercules	Hercules	Hercules
size .....	6-3¼ x 4½	6-4 x 4½	6-4 x 4½	6-4¾ x 4¾
Transmission, make .....	Covert	Covert	Covert	Covert
speed and mounted .....	4-unit	4-unit	4-unit	4-unit
Rear axle, make .....	Timken	Timken	Timken	Timken
final drive .....	spiral-bevel	spiral-bevel	worm	worm
type .....	full-floating	full-floating	full-floating	full-floating
Service brakes .....	Lockheed int. hydraulic	Lockheed int. hydraulic	Lockheed int. hydraulic	Lockheed int. hydraulic
auxiliary operation .....		B-K Booster	B-K Booster	B-K Booster

For detailed specifications see table beginning on page 68.

By Improving Hood, Cab, Radiator and Fenders in All 2, 2½ and 3-Ton Units



DESIGNED IN MODERN TRUCK STYLE, DIAMOND T MODEL 303, TYPICAL OF THE CURRENT PRODUCTION, EMBODIES A NEW DE LUXE CAB, STREAMLINED TO CONFORM TO THE HOOD, CHROMIUM-PLATED RADIATOR, FOUR RECTANGULAR LOUVERS IN HOOD SIDES AND UNUSUALLY LONG FENDERS. HOTCHKISS-TYPE DRIVE AND REAR HELPER SPRINGS ARE USED

MODEL 503, RATED 2½ TONS, IS EQUIPPED WITH WORM-DRIVE AXLE AND RADIUS RODS.

IN addition to introducing two entirely new models early this year, Diamond T Motor Car Co. has incorporated many improvements and refinements in the current 2, 2½ and 3-ton units. Custom-built appearance has been attained by streamlining hood and cab, use of a new type chromium-plated radiator and long, sweeping fenders which are carried back to the end of the cowl. Hood louvers are of modern rectangular style, in vogue in passenger car design. Other changes include adoption of Houdaille shock absorbers on front springs and option on special fast rear axle ratios.

The new Diamond T radiator incorporates angled tubes which give a high rate of heat dissipation because of turbulence in the air and large radiating surface. Addition of Houdaille shock absorbers increases driver comfort and allows higher speeds with less risk of damage to load or truck.

Models 303, capacity 2 tons, and 551, of 2½-ton rating, are equipped with Timken full-floating bevel-gear axles with straddle-mounted pinions. Standard ratios on Model 303 are 5.83 to 1 and 6.8 to 1. Special high-speed ratio, available at extra charge, is 4.86 to 1, which is within the range of passenger car ratios. Five wheelbases accommodate bodies to 14-ft. length.

Two 2½-ton models are included in the line, Model 551 (mentioned in preceding paragraph), which has a bevel-gear axle, and Model 503, which embodies a worm drive rear axle. Model 551 is furnished with axle ratios of 6.83

TURN TO PAGE 54, PLEASE

# SCHACHT OFFERS DE LUXE SERIES IN SIX MODELS

New Front End Refinements and Color Contribute to Smart Appearance



THE LeBlond-Schacht Truck Co., Cincinnati, has introduced a de luxe series of trucks which, although conforming to major specifications of standard models, incorporate mechanical changes in addition to improved appearance. Basic models of the series are designated Series 20, 25, 30 and 40, rated 2, 3, 4 and 5 tons respectively. Series 15 of 1½-ton capacity and 20A, carrying a rating of 2½ tons, which are companions of Series 20, also are included in the de luxe line.

A special paint job is included in chassis price of all de luxe models. Full crown fenders, headlamps of special dome design, hood louvers in a panel and chromium-plated radiator, lamps and bumper contribute to smartness of appearance.

Balloon tires, single on front and dual rear, are standard on the basic de luxe models. However, high pressure pneumatics are optional at same price on all models except Series 25 chassis on which an allowance is made for 32 by 6 in., and an extra charge made for 34 by 7 in. high pressure tires. Longer wheelbases are supplied on order at a special price on Series 25, 30 and 40. Wheelbases of 199 or 213 in. list at \$75 extra on any of these models, the latter accommodating a 16 ft. body. An extra charge of \$100 is made for 227 in. wheelbase on Models 30 and 40 to accommodate an 18 ft. body. This wheelbase is not furnished for Model 25. A seven-speed transmission is available on Series 30 and 40 at \$150 extra.

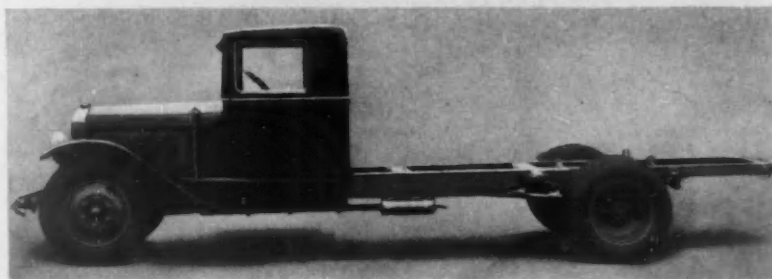
TURN TO PAGE 60, PLEASE

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and Operation & Maintenance

## Specifications of De Luxe Series Schacht Trucks

Model	15	20	20A	25	30	40
Chassis price . . . .	\$2,010	\$2,095	\$2,195	\$2,595	\$3,395	\$3,795
Balloon tire size. . .	7.50/20	7.50/20	7.50/20	8.25/20	9.00/20	9.75/20
High pressure size. .	32 x 6	32 x 6	32 x 6	32 x 6 (a)	34 x 7	36 x 8
				34 x 7 (b)		
Gear ratio, standard	5.67 to 1	5.67 to 1	6.16 to 1	7.4 to 1	6.72 to 1	7.14 to 1
Optional . . . . .	none	6.8 to 1	none	6.16 to 1	7.29 to 1	8.00 to 1
(a) Deduct \$25.00 for 32 by 6 in. in place of balloons.						
(b) Add \$25.00 for 34 by 7 tires in place of balloons.						

For detailed specifications see table beginning on page 65.

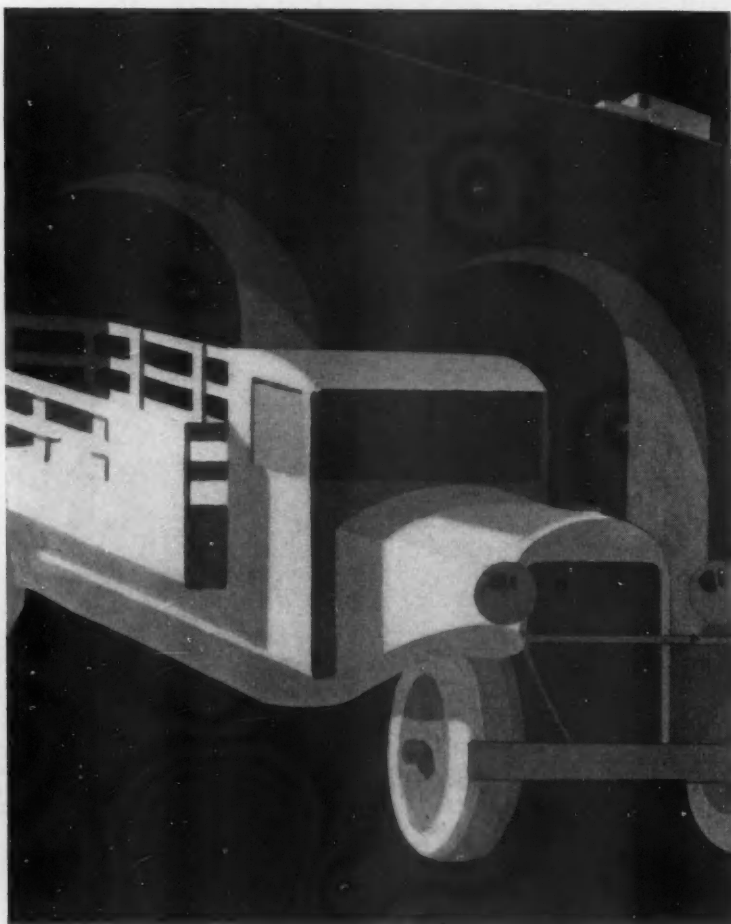


SERIES 20, A 2-TON CHASSIS, LIKE OTHER MODELS IN THE NEW DE LUXE LINE OF SCHACHT TRUCKS, IS SUPPLIED WITH CHROMIUM-PLATED BRIGHT PARTS, FULL CROWN FENDERS, BUMPER, COWL LIGHTS, FULL ELECTRICAL EQUIPMENT, BALLOON TIRES AND FISH-PLATE FRAME REINFORCEMENT. SPECIAL PAINTING IS INCLUDED IN THE LIST PRICE

May, 1930



# STEWART 1 1/4 - TONNER HAS ENGINE OPTION



Priced at \$1,195, Powered  
With Either a Four or Six

OFFERED with either a four or six-cylinder engine, Stewart's new 1 1/4-ton truck equipped with four-speed transmission and four-wheel brakes lists at \$1,195. The four is designated as Model 16-A and the six, 16-XA. This new unit is produced in a standard wheelbase size of 130 in. and in several optional longer wheelbases. Five types of standard stock bodies are built for this model, namely: panel, covered express, open express, stake and farm. The four-cylinder engine is a 3 3/4 x 5-in. Lycoming developing 42 hp. at 2200 r.p.m., while the six, also a Lycoming, has a 3 1/4-in. bore and 4 1/2-in. stroke, developing 61 hp. at 2600 r.p.m. Both engines are equipped with Stromberg carburetors and Delco-Remy starting, lighting and ignition systems.

The Borg & Beck single-plate clutch equipped with a vibration dampener is mounted in unit with a Warner four-speed transmission. Power is transmitted through a single or a two-piece Spicer propeller shaft, according to length of wheelbase, to a Clark full-floating spiral bevel type rear axle, providing a standard gear ratio of 5.6 to 1 or an optional of 6.37 to 1.

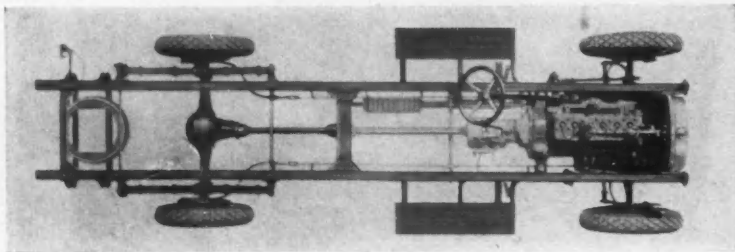
Bendix mechanical two-shoe type of four-wheel brakes operating in 14 x 2-in. drums are furnished for service braking. Braking effort is distributed so that 65 per cent is on the rear and 35 per cent on the front. The hand brake is of the external type and is mounted on the transmission. It acts on an 8 x 2 1/2-in. drum.

Four semi-elliptic silico-manganese steel springs support a pressed steel frame of 6-in. section and 2 1/4-in. flange. On longer wheelbase models a 7 1/2-in. frame is used.

## Specifications of New Stewart Models

Model .....	16-A	16-XA
Capacity .....	1 1/4-ton	1 1/4-ton
Price .....	\$1,195	\$1,195
Engine, make .....	Lycoming	Lycoming
size .....	4-3 3/4 x 5 in.	6-3 1/4 x 4 1/2 in.
Transmission .....	Warner	Warner
mounting and speeds .....	unit-4	unit-4
Rear axle, make .....	Clark	Clark
drive .....	bevel	bevel
Service brakes .....	Bendix 4-wheel	Bendix 4-wheel
Hand brake, location .....	transmission	transmission

For detailed specifications see table beginning on page 65.



STEWART'S 1 1/4-TON MODEL 16-XA IS EQUIPPED WITH A 3 1/4 X 4 1/2-IN. SIX, FOUR-SPEED TRANSMISSION, BEVEL REAR AND MECHANICAL FOUR-WHEEL BRAKES. 32 X 6-IN. TIRES ARE USED ALL AROUND

# STERLING ADDS SHAFT-DRIVE SIX-WHEELERS

Model EWS-40 Rated at 12 Tons and EWS-36 at 10 Tons

## Specifications of Sterling Six-Wheelers

Model .....	EWS-40	EWS-36
Capacity .....	12-ton	10-ton
Engine, size .....	6-5 x 5½ in.	6-4½ x 5¼ in.
Transmission, make .....	Brown-Lipe	Brown-Lipe
mounting and speeds .....	unit-4	unit-4
auxiliary, speeds .....	3	3
Rear axles .....	Timken tandem	Timken tandem
Service brakes .....	Westinghouse air, 4-wheel	Westinghouse air, 4-wheel
Hand brake, location .....	propeller shaft	propeller shaft

**T**WO new heavy-duty, four-wheel-drive, six-wheel trucks, equipped with large six-cylinder engines, twelve-speed transmission combinations, Timken tandem rear axles and Westinghouse air brakes on all six wheels, are offered by the Sterling Motor Truck Co. Except for the size of the engines and axles, both models are identical.

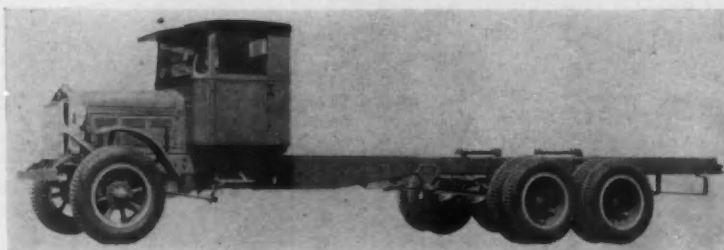
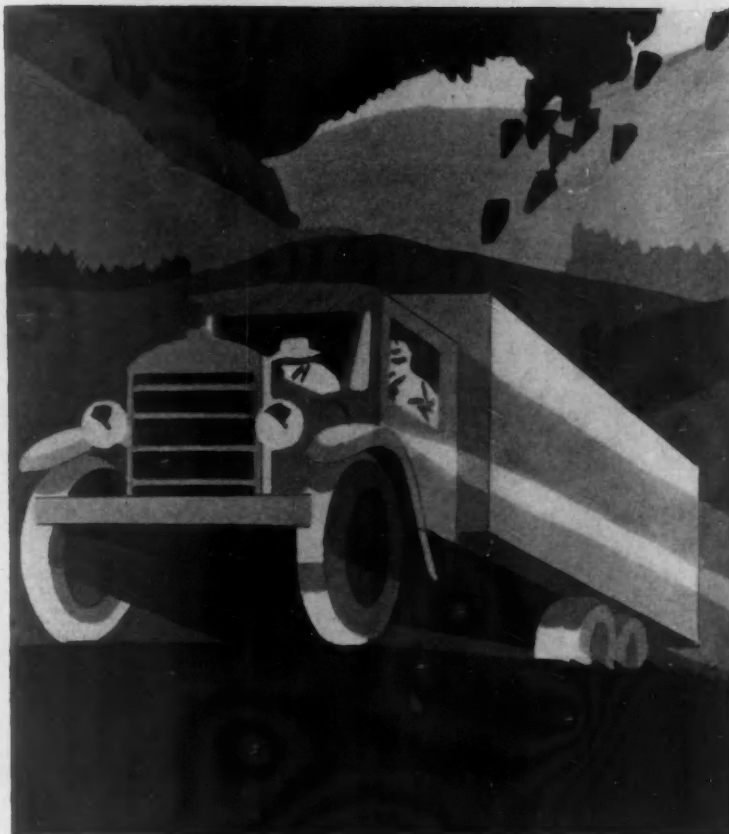
Model EWS-40, rated at 12-ton capacity and having a road speed of from 24 to 30 m.p.h., is powered by a 5 x 5½-in. Sterling Model RB six-cylinder engine, developing 126 hp. at 1800 r.p.m., while Model EWS-36, rated at 10 tons and capable of 26 to 33 m.p.h., is equipped with a 4½ x 5¼-in. six-cylinder Model AB Sterling engine, developing 98 hp. at 1850 r.p.m.

Both engines have Ricardo combustion chambers. Crankshafts are 3½ in. in diameter and rotate in four main bearings, having a total length of 10½ in. Lubrication is full-pressure, and governors are built in the engines. Magneto ignition is standard, but when electric lights and batteries are used, distributor ignition is employed instead. Stewart vacuum-fed Zenith carburetors and tubular radiators are common to both models.

Mounted in unit with the engine is a Brown-Lipe multiple-disk clutch and four-speed transmission. The transmission, however, is supplemented by a patented 3-speed Sterling auxiliary transmission which, together with regular transmission, furnishes a range of 12 different speeds. Spicer universals connect the transmissions and Blood Brothers equipment is employed to connect with the axles.

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ONE OF STERLING'S NEW HEAVY-DUTY, FOUR-WHEEL-DRIVE, SIX-WHEEL MODELS. IT PROVIDES 12 SPEEDS AND IS EQUIPPED WITH TIMKEN WORM-DRIVE TANDEM AXLES AND AIR BRAKES

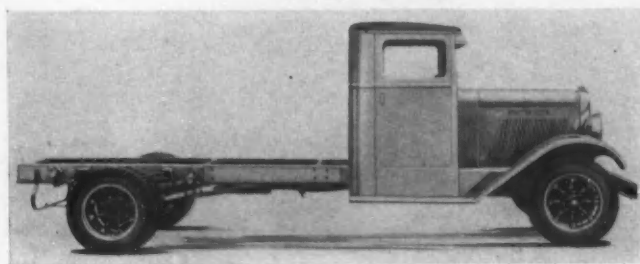
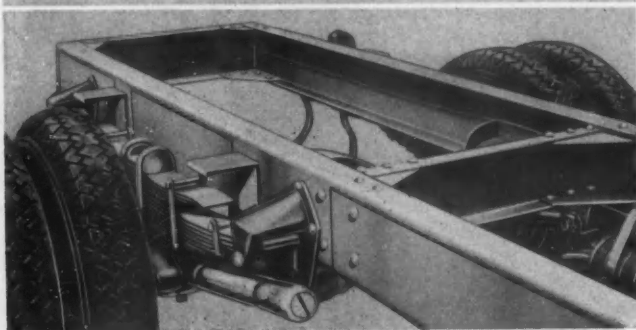


# NEW LAFRANCE-REPUBLIC 6 COMES IN 3 LENGTHS

## Specifications of Model F2

Vehicle gross weight .....	13,000 lb.
Engine, make .....	Lycoming
size .....	6-3¼ x 5 in.
Transmission, make .....	Fuller
mounting and speeds .....	unit-4
Rear axle, make .....	Timken
type .....	full-floating
drive .....	bevel
ratio .....	6 1/6 to 1
Brakes, service .....	4-wheel Lockheed hydraulic
emergency .....	Tru-Stop disk
Detailed specifications will be found in table starting on page 65	

Straight Rated at 13,000  
Lb., Model F2 Series is Pow-  
ered by an 80 Hp. Engine



THE LaFrance-Republic Corp., Alma, Mich., is offering a new six having a straight rating capacity of from 12,000 to 13,000 lb., equipped with a four-speed transmission and four-wheel hydraulic brakes. This new unit is designated according to its wheelbase length, of which there are three: Model F2 has a wheelbase of 174 in.; Model FA2, 198 in., and Model FB2, 146 in. All three have a common low frame height, when loaded, of 30½ in.

Model F2 incorporates many new improvements in mechanical construction as well as in design and appearance. Notable among these are a six-cylinder, 3½ by 5 in. L-head Lycoming engine, developing 80 hp. at 2500 r.p.m.; Fuller, unit-mounted, ball bearing equipped four-speed transmission; Timken full-floating, bevel-drive rear axle, giving a final reduction of 6 1/6 to 1; four-wheel internal Lockheed hydraulic brakes with vacuum booster; Tru-Stop emergency brake; high, narrow tubular radiator; an 8-in. frame, floating-contact type rear springs and ball-type tubular radius rods.

Standard equipment includes head, tail and stop lights, starter, speedometer, Gascolator, air cleaner, oil pressure gage, spare rim and tire carrier, windshield wiper and rear-view mirror.

TOP: SHOWING THE NEW FLOATING-CONTACT TYPE OF REAR SPRINGS USED ON THE MODEL F2 LAFRANCE-REPUBLIC. THE ENDS OF THE MAIN SPRINGS ARE FREE AND FLOAT IN THE BRACKETS, DRIVE BEING TAKEN THROUGH RADIUS RODS. HELPER SPRINGS ARE U-BOLTED TO THE MAIN SPRINGS. CENTER: THIS NEW CAB, BUILT ESPECIALLY FOR MODEL F, MAINTAINS THE SMART APPEARANCE OF THE FRONT END AND PROVIDES ROOMINESS AND DRIVER COMFORT. THE WINDSHIELD IS OF THE ONE-PIECE TYPE. A VENTILATOR IS LOCATED IN THE COWL. BOTTOM: MODEL F2 AND CAB



# RELAY PRESENTS NEW 4 AND 6-WHEEL MODELS

Builds Low Frame for Model 100 and Places Two-Wheel Drive Under Model 60SW

THE Relay pendulum drive is incorporated in two new heavy-duty models presented by Relay Motors Corp., Lima, Ohio. One of the trucks is a six-wheeler rated at 7 tons, and the other a four-wheel unit rated at 5 tons. The six-wheel unit embodies two oscillating rear axles, one of which is driven, and Lockheed hydraulic brakes on all six wheels. Rated at 5 tons, the four-wheel model has low frame height of 28½ in., made possible, without kick-up in side rails, by mounting springs on the axle housing, which in this Relay axle is suspended below the wheel center.

Flexible connection of the trailed axle in the six-wheel truck provides cushioning of horizontal impacts, a feature of all Relay axles, and also greater traction for the driven axles than would be provided by a rigid mounting. Distance between driving and trailed axles is 54 in. Standard ratio of driving axle is 7.88 to 1, with an option on 9.09 to 1.

Engine of the six-wheel model is a Buda six-cylinder 4½ by 5½ in., developing 83 hp. at 2100 r.p.m. Transmission is a Fuller VU, providing five speeds forward and two reverse.

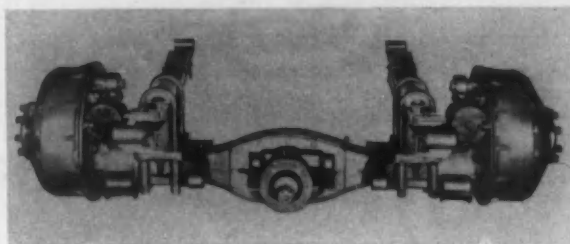
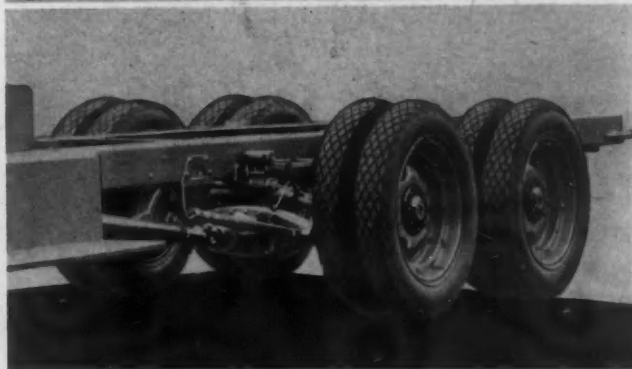
The 5-ton four-wheel truck, designated Model 100, has axle shafts for drive, and the wheel axle contained within a single housing. Straight side rails, 8½ in. deep, without kick-ups, reduce size of wheel-houses on closed bodies. Standard wheelbase is 230 in., with 180 and 205 in. available if desired.

A Continental 21R overhead valve engine with six cylinders 4½ by 4½ in. powers Model 100. Transmission is also a Fuller VU, with five forward and two reverse speeds.

Air brakes of internal type and Westinghouse make operating on all four wheels are standard, the hand brake operating on a drum on the propeller shaft. Tires are 9.00/24 front and 9.75/24 duals on rear.

## Specifications of New Relays

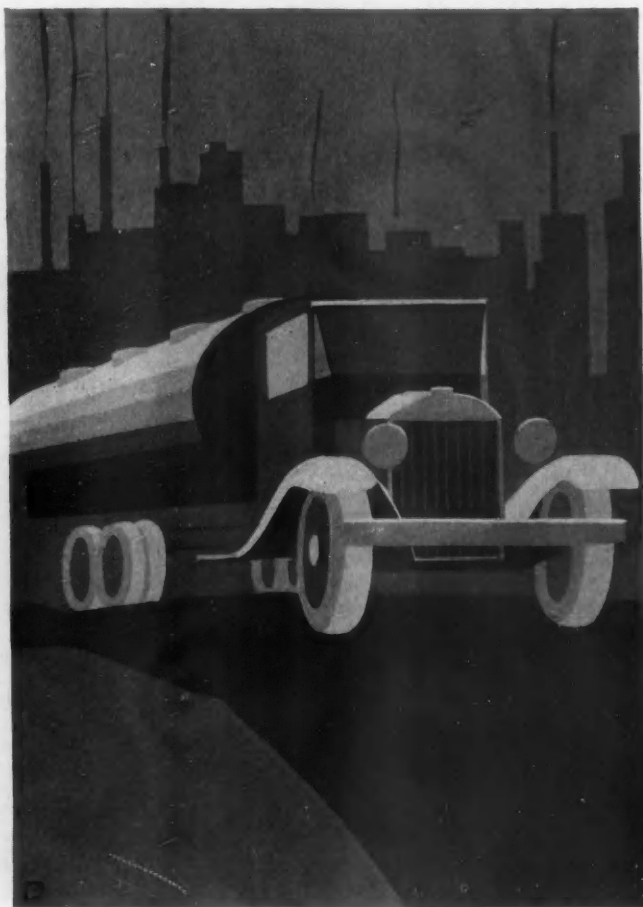
Model .....	60SW	100
Capacity .....	7 ton	5 ton
Engine, make .....	Buda	Continental
bore and stroke .....	6-4½ x 5½	6-4½ x 4½
Transmission .....	Fuller	Fuller
speeds and mounted .....	5-unit	5-unit
Rear axles, driving .....	Relay	Relay
trailed .....	Relay	none
Brakes .....	6-wheel Lockheed hydraulic	4-wheel internal air



BOTH REAR AXLES OF THE NEW RELAY SIX-WHEELER, AT TOP INCORPORATE THE RELAY OSCILLATING PRINCIPLE, BUT ONLY THE FORWARD AXLE IS DRIVEN. HYDRAULIC BRAKES ARE INSTALLED ON ALL SIX WHEELS OF THIS CHASSIS

LOW FRAME HEIGHT OF 28½ IN. ON THE 5-TON MODEL 100 IS MADE POSSIBLE BY THE UNDERSLUNG CONSTRUCTION OF THE REAR AXLE, WHICH INCORPORATES BOTH THE AXLE SHAFTS AND THE WHEEL AXLE WITHIN THE SAME HOUSING

# AUTOCAR 6-WHEEL UNITS POWERED BY "BLUE STREAK"



Equipped With Timken Tandem  
And Air Brakes on Six Wheels

THE Autocar Co., Ardmore, Pa., announces three new sizes of six-wheel chassis as additions to its regular line. These new models, equipped with 101-hp. six-cylinder engines, four-speed transmissions, Timken tandem rear axle units and Westinghouse air brakes, are designated according to their length, namely, Model G has a wheelbase of 125 in., Model GA, 211 in., and Model GB, 237 in.

Service brakes are Westinghouse air-operated of the internal type, which act on all six wheels. The hand-operated brake is of the driveshaft ventilated disk type. The frame is of pressed chrome nickel-steel,  $10\frac{1}{2} \times 3 \times 5/16$  in., and is supported by four semi-elliptic springs with auxiliaries at the rear.  $36 \times 8$  in. pneumatics, dual rears, are standard.

All G models are powered by the largest of the two new Blue Streak engines recently put out by Autocar and described in the March issue of COMMERCIAL CAR JOURNAL, page 37. This  $4\frac{1}{2} \times 4\frac{3}{4}$  in. six-cylinder L-head engine is mounted in unit with a multiple-disk clutch and four-speed transmission. An auxiliary three-speed transmission, providing over, under and direct drives, gives a range of 12 ratios.

Fuel is fed by vacuum from a 31-gal. tank located under the seat to a Stromberg carburetor equipped with an air cleaner. Magneto ignition is employed, and the cooling system, which includes a fin-and-tube type radiator, is thermostatically controlled.

The four-wheel drive unit of these models are Timken-Detroit Model SW-300 worm-driven tandem, which were described in detail in the May, 1929, issue of COMMERCIAL CAR JOURNAL, pages 38 and 39. They provide a final rear axle ratio of  $10 \frac{2}{3}$  to 1. Drive is taken through radius rods, connected through a journal, on the front ends of the equalizing beams of the Timken unit and attached to brackets on the frame.

Regular equipment includes head and tail lights, starter and generator.

A fully enclosed de luxe coupe-type of cab is available for this chassis. Built by Autocar, this cab is three-point mounted, is equipped with remote door control, crank-operated window regulators, one-piece windshield, windshield wiper and rear mirror.

## Specifications of Autocar G Series

Capacity, vehicle gross weight .....	36,000 lb.
pay load capacity .....	20,000 lb.
Engine, make .....	Autocar Blue Streak
size .....	$6-4\frac{1}{2} \times 4\frac{3}{4}$ in.
hp. ....	101
Transmission, mounting and speeds .....	unit—4
Rear axles .....	Timken tandem
Service brakes .....	Westinghouse air on 6 wheels
Hand brake .....	disk



LEFT: ONE OF AUTOCAR'S THREE SIX-WHEEL MODELS EQUIPPED WITH A TANK BODY. SERVICE BRAKES ARE AIR-OPERATED AND ACT ON ALL SIX WHEELS

# MORELAND "B-LINER" IS 5-TON 6-WHEELER

Model BD-7, Offered in Three  
Wheelbases, Lists at \$3,565

## Specifications of Moreland BD-7

Capacity, vehicle gross weight.... 16,000 lb.  
Chassis weight ..... 6,000 lb.  
Engine, make ..... Hercules WXB  
size ..... 6-3¼ x 4½  
hp. .... 67  
Transmission, make ..... Brown-Lipe  
mounting and speeds ..... unit—4  
Rear axle, make ..... Timken tandem  
Service brakes ..... Lockheed hydraulic 4-wheel internal  
Hand brake, location ..... transmission

**B**-LINER, also designated as Model BD-7, is the name of the new six-wheel truck of about 5 tons capacity, offered by the Moreland Motor Truck Co., Los Angeles, Calif. With a gross weight rating of 16,000 lb. and a chassis weight of 6000 lb., the B-Liner has a chassis capacity of 10,000 lb., which is comparatively light in the six-wheel field.

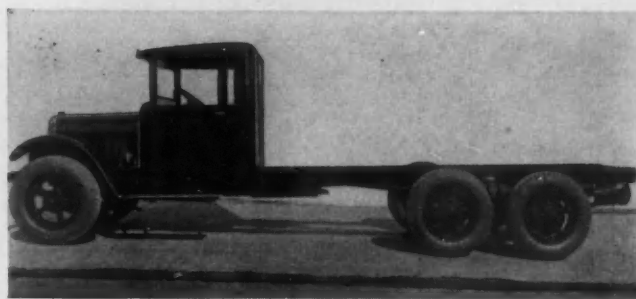
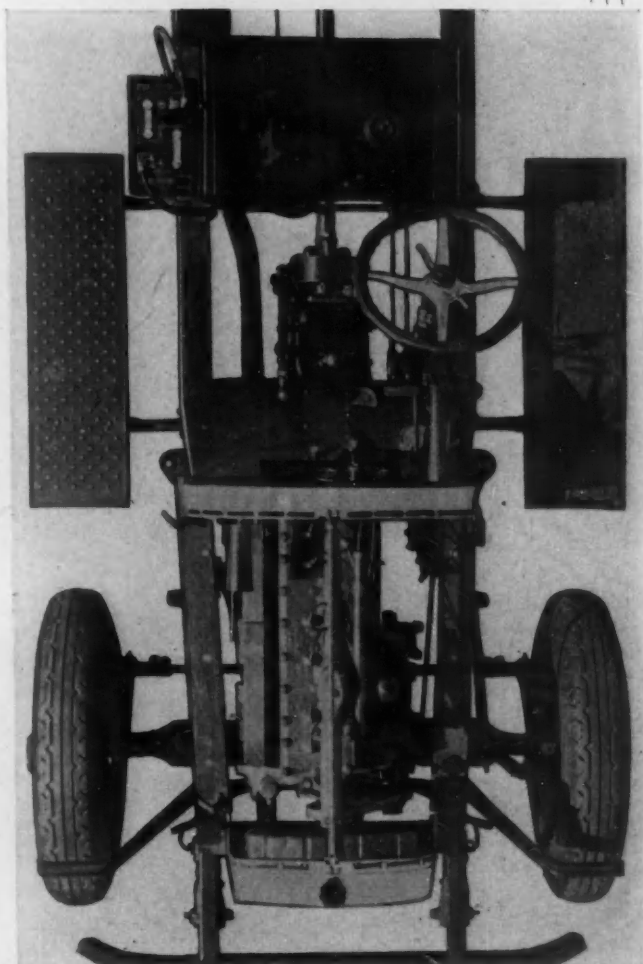
This model is offered in 160 or 184-in. wheelbase, and is equipped with a six-cylinder engine, four-speed transmission, Timken tandem axle and Lockheed four-wheel brakes.

Power is furnished by a rubber-mounted Hercules Model WXB 3¼ x 4½ in. engine, developing 67 hp. at 2400 r.p.m. Auto-Lite electrical equipment is supplied, and the cooling system includes a fin-and-tube radiator.

Mounted in unit with the engine is a single-plate Brown-Lipe clutch and Model 35 Brown-Lipe four-speed transmission. A three-speed auxiliary transmission is available at extra cost. A two-piece tubular driveshaft, supported by a self-aligning center bearing, connects the transmission with the rear. Final drive is through a worm-driven Timken-Detroit tandem axle, which was described in the May, 1929, issue of *COMMERCIAL CAR JOURNAL*, pages 38 and 39. This axle provides a final reduction of 7 2/3 to 1.

These four drive wheels are fitted with Lockheed internal hydraulic brakes acting in 16 x 3½ in. drums. The hand brake is mounted on the rear of the transmission. Semi-elliptic springs with auxiliaries at the rear support a 9 x 3½ x ¼ in. pressed steel frame. Metal spoke type wheels are fitted with 34 x 7 in. single pneumatic tires throughout.

Equipment includes generator and starter, head and tail lights, speedometer and oil gage instrument. Cabs, which are furnished at extra cost, are of the coupe type, fitted with steel doors, adjustable windshield, movable window in rear and thickly upholstered cushions.



TOP: THE HAND BRAKE DRUM IS MOUNTED ON THE REAR OF THE FOUR-SPEED UNIT-MOUNTED TRANSMISSION. NOTE LOCATION OF GASOLINE TANK AND BATTERY. ABOVE: MORELAND'S NEW SIX-WHEEL MODEL, THE B-LINER, HAS A VEHICLE GROSS WEIGHT RATING OF 16,000 LB. AND IS EQUIPPED WITH A TANDEM AXLE

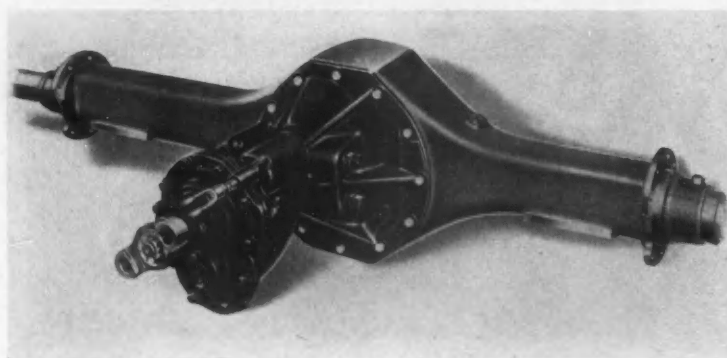
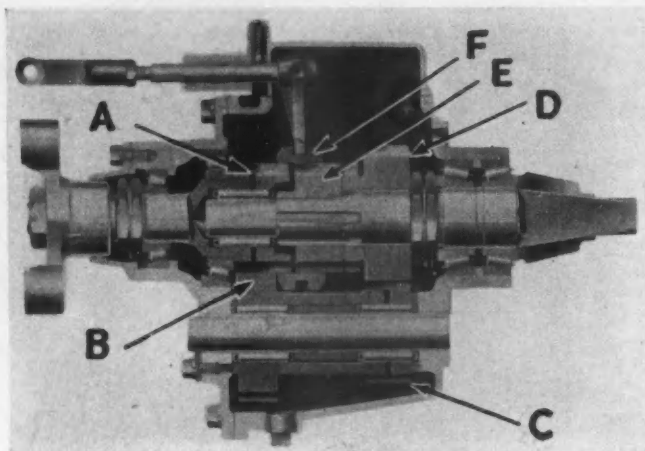


# REO PRICES SUPER-TONNER SPEED WAGON AT \$1,095

## Specifications of Super-Tonner

Capacity	1 ton
Engine, make	own
size	6-3 1/2 x 5 in.
Transmission, make	own
speeds and mounting	3-unit
Rear axle, make	own
type	semi-floating
drive	bevel
Brakes, service	4-wheel Lockheed
emergency	hydraulic transmission
For detailed specifications see table beginning on page 65.	

Offers Two-Speed Rear Axle  
On All Three-Ton Models  
in Regular Production



**S**UPER-TONNER is the name of a new 135-in. wheelbase 1-ton Reo Speed Wagon listing at \$1,095. This new unit is equipped with the Model C Master Flying Cloud six, four-speed transmission, hydraulic four-wheel brakes, and is laid out so that all Reo FA bodies and cabs may be used on it. Introduced concurrently with this new truck is a new two-speed rear-axle transmission available with Reo 3-ton Models GA, GC, GD and GCS. Later this unit will be ready for application to the G models now in use.

The Flying Cloud engine used in the Super-Tonner has a 3 3/8-in. bore and 5-in. stroke, seven-bearing crankshaft, aluminum pistons and chain front-end drive. Force-feed lubrication is employed, and crankcase vapors are disposed by a ventilation and carburetor system. A three-way cooling system with ample water jacketing around cylinders and valve seats holds variation of water temperature from front to rear to a maximum of 4 deg. The tubular radiator is equipped with thermostatic heat control.

A single-plate clutch and three-speed trans-

TURN TO PAGE 60, PLEASE

ABOVE: AN INTERNAL - EXTERNAL GEAR CLUTCH WORKING IN CONJUNCTION WITH FOUR CONSTANT MESH SPUR GEARS COMPRISE THE REO TWO-SPEED REAR AXLE UNIT. PART E IS SPLINED TO THE SHAFT, THE REAR END OF WHICH CARRIES THE BEVEL PINION. EXTERNAL TEETH ON PART E SERVE AS SPLINES FOR INTERNAL TEETH ON CLUTCH GEAR F. DIRECT DRIVE IS OBTAINED BY ENGAGING CLUTCH F WITH GEAR A, CAUSING POWER TO PASS THROUGH A, F AND E TO THE PINION SHAFT. THE REDUCTION IS OBTAINED BY ENGAGING CLUTCH F WITH GEAR D, WHICH IS FREE TO REVOLVE, CAUSING THE POWER TO PASS THROUGH A, B, C, D AND E TO THE PINION SHAFT. CENTER: REO'S NEW 1-TON SPEED WAGON. LOWER: REO TWO-SPEED UNIT BOLTED TO THE REAR AXLE HOUSING

# FWD EXTENDS LINE WITH 2 1/2-TON FOUR-WHEEL DRIVE

Model HH6 Has Seven-Speed Transmission With Brakes Effective on Four Wheels

A 2 1/2-TON four-wheel drive truck, equipped with a six-cylinder engine, seven-speed transmission and four-wheel brakes, is the latest addition to the FWD family. It is designated as Model HH6.

The Waukesha engine, with a bore and stroke of 3 3/4 by 4 1/4 in., has a piston displacement of 315 cu. in., and develops 66 hp. at 2000 r.p.m. Cylinders are cast in block, and the crankshaft is carried in seven bearings. Oil is forced from a special base designed to keep the oil surface level under all conditions to provide adequate lubrication when the truck is operated on steep grades. A dry multiple-disk Brown-Lipe clutch is used in connection with a seven-speed Brown-Lipe transmission which is mounted amidships. A wide range of gear combinations provides an extreme low and an over-drive. Power is transferred from the transmission to a sub-transmission located midway between the front and rear axles. The sub-transmission, which provides a further gear reduction, consists of two sprockets and a 5-in. silent chain and the center differential, all enclosed in a semi-steel case. By means of a lever in the cab the center differential can be locked to destroy its compensating action when traction otherwise cannot be obtained on either set of driving wheels.

Both the front and rear axles are of the full-floating type, with power transmitted through conventional bevel gear construction. Drive leaves the front and rear axle differential in the same manner; the front axle shaft, however, terminates in a ball and socket and universal joint at each end of the axle housing.

Braking systems are independent of each other. The service brake, located on the rear of the sub-transmission, is of the external type and exerts its force on each of the four wheels. Hand brakes act internally on 18-in. rear-wheel drums.

The 5 3/16 by 2 1/4 by 9/32 in. chrome-nickel frame is supported upon four semi-elliptic



## Specifications of Model HH6

Capacity	2 1/2 tons
Engine, make	Waukesha
size	6-3 3/4 x 4 1/4
Transmission, make	Brown-Lipe
mounting and speeds	amidships—7
Front and rear axles	FWD
type	full-floating
drive	bevel
Brakes, service	4-wheel transmission
emergency	rear wheels internal

Detailed specifications will be found in the table starting on page 65

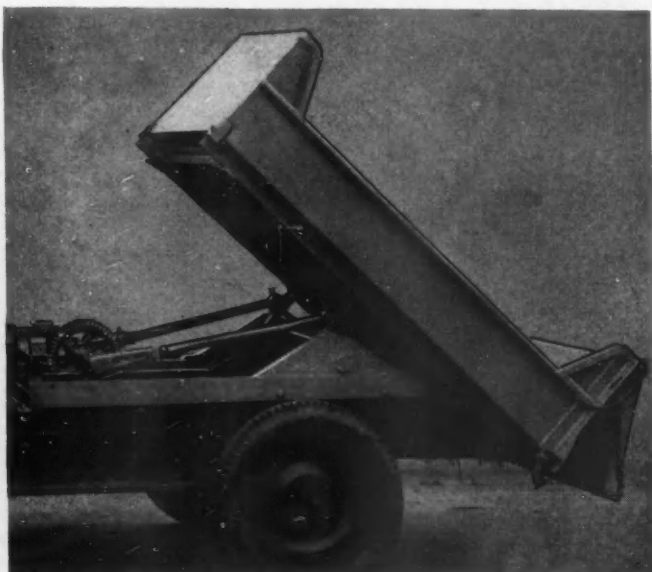
springs. The rear end of each set of springs slides freely in brackets instead of being shackled.

Standard equipment includes starting and lighting equipment, steel spoke wheels with 36 by 8 in. pneumatic tires and air cleaner.



FWD 2 1/2-TON FOUR-WHEEL DRIVE SIX EQUIPPED WITH A DUMP-TYPE BODY. A SUB-TRANSMISSION SERVICE BRAKE EXERTS ITS FORCE ON FOUR WHEELS. TIRES ARE 36 BY 8 IN.

# HERCULES ADDS THREE BODIES TO 1930 LINE



Power Dump, Panel and Canopy Top Express Types for Light Trucks



THE 1930 line of Hercular bodies for Chevrolet chassis embodies new features in appearance and construction as well as several new models. All bodies are offered in new colors and styles and incorporate such structure improvements as die-stamped, rounded corners, metal sheathed wood panels, small steel corner posts, sedan doors with remote control, one-piece windshields, graceful roof lines, etc. Among the new models are a canopy-top express body No. 2936, the Master-Craft panel body, and a Rotary power dump body furnished with straight sides in the 1 and 1½ cu. yd. capacity or with flared coal body of 2½ cu. yd. capacity.

HERCULES 1½ CU. YD. ROTARY POWER DUMP BODY WITH STRAIGHT TAPERED SIDES. AMONG THE IMPROVEMENTS ARE 22-IN. TAIL-GATE, SEMI-AUTOMATIC ACTING; HIGH FRONT END, HIGH GROUND CLEARANCE AND CLOSE-TO-CAB MOUNTING. POWER FOR DUMPING IS OBTAINED FROM A POWER TAKE-OFF, AND OPERATION IS SIMILAR TO THE ROLL-BACK PRINCIPLE EMPLOYED IN THE HERCULES AUTOMATIC DUMP BODY. ONE-HALF REVOLUTION OF THE LARGE GEAR DUMPS THE BODY. TWO CRANKS KEYED TO THE CROSS-SHAFT ARE CONNECTED TO TWO RODS, WHICH IN TURN ARE ATTACHED TO BRACKETS SECURED TO THE CENTER OF THE BODY. THESE BRACKETS ALSO CARRY ROLLERS WHICH OPERATE IN TRACKS. DUMPING IS REALLY A COMBINATION OF POWER AND GRAVITY ACTION. AS THE BODY IS ROLLED TO THE REAR, PART OF IT OVERHANGS THE POINT OF REAR SUPPORT, THEREBY REDUCING BURDEN ON CRANK

HERCULES MASTER-CRAFT PANEL BODY. GRACEFUL LINES ARE OBTAINED BY ROUNDED CORNERS, SWEEPING ROOF CURVES AND STREAM-LINE EFFECTS. THE METAL ROOF IS LAID OVER SOLID SLATTING SUPPORTED BY HARDWOOD RAILS. PANELS ARE OF THREE-PLY WOOD COVERED WITH FELT AND SHEET STEEL. SIDE DOORS ARE OF THE VESTIBULE SEDAN TYPE WITH DOUBLE-LOCKING REMOTE CONTROL, AND REAR DOORS ARE EQUIPPED WITH DOUBLE AND SINGLE SNAP LOCKS. OTHER STANDARD FEATURES INCLUDE PLATE-GLASS WINDOWS, TERNSTEDT VENTILATING WINDSHIELD, AUTOMATIC WIPER, REAR MIRROR, DOME LIGHT AND AIR-FILLED SEAT CUSHIONS. LOADING SPACE: LENGTH, 72 IN.; WIDTH, 45 IN., AND HEIGHT, 47 IN. LEFT: HERCULES NO. 2936 CANOPY-TOP EXPRESS BODY. GENERAL CONSTRUCTION AND SIZE THE SAME AS THE PANEL BODY. PANELS ARE 14 IN. HIGH. PANELS AND UPRIGHTS ARE WELL-IRONED BOTH IN AND OUTSIDE. DROP ENDGATE IS METAL-SHEATHED. ROLL-UP SIDE AND REAR CURTAINS ARE STANDARD EQUIPMENT



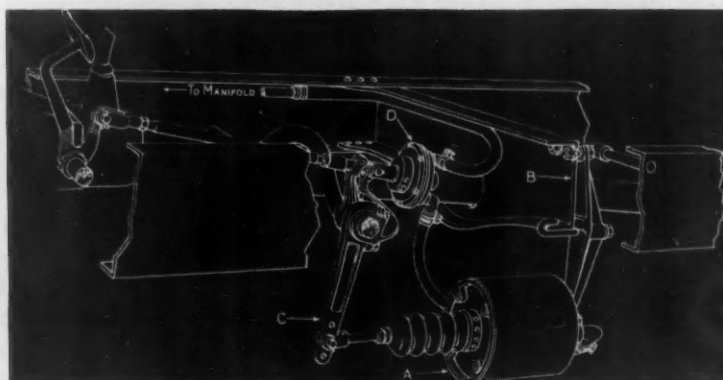
# B-K PRODUCES VACUUM AMPLIFIER FOR FORDS

Installations Also Available for Use With Four-Wheel and Semi-Trailers

**B**RAGG-KLIESRATH CORP., Long Island City, N. Y., is offering a vacuum power amplifier for all Ford A and AA trucks and for use with four-wheel and semi-trailers. As is true of all B-K vacuum brakes, the new models leave the original braking system intact.

Installation of the B-K system on the Ford truck is comparatively simple and can be made in less than three hours. The accompanying diagram shows how the system is applied to a Ford truck.

The power cylinder *A* is suspended at the rear from a swivel joint by a bracket *B* bolted to the main cross-member of the chassis. The piston of cylinder is attached by a clevis to power lever *C*, which is attached to the service brake cross-shaft. The upper end of the power lever is extended on an offset to which is at-



tached the rear end of the brake pedal rod and also the external operating valve.

The operating valve, which controls the power brake cylinder is mounted in the pedal line through a slip-joint which permits the action of the valve without interfering with the mechanical action of brake pedal. This slip-joint passes through the cross-shaft lever and the power lever *C* acts against this cross-lever in applying brake power.

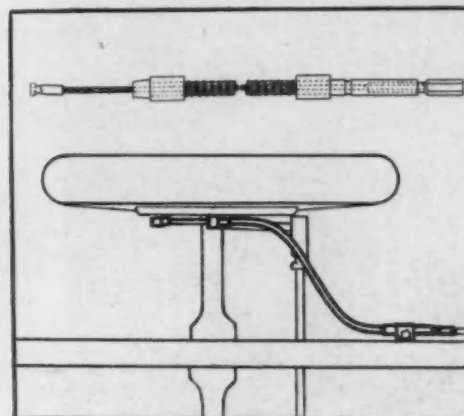
No parts are disturbed when installing the system, and installation is completed by connecting intake manifold to the valve.

The complete system with exact length of tubing and hose for Ford Model AA lists at \$52.

## "TRU-STOP" BRAKE CONTROL

**A** TUBE and cable mechanism for brake control has been developed by the American Cable Co. of New York. It is intended for use with mechanically operated brakes and extends from a bracket on the frame near the wheel to the brake operating mechanism on each wheel.

The inner member of this brake control, known as Tru-Stop, consists of a piece of 3/16-in. wire cable made up of numerous rust-proof high carbon steel wires. Fittings attached to ends of this cable are affixed by means of the "Tru-Loc" process of cold-flowing the steel fitting into the interstices of the wires, thus making it an integral part of the wire cable. The casing is a tube formed of a close-wound coil spring which affords a large bearing surface for supporting the cable. About this inner spring there is a standard multiple wire covering formed with a comparatively large pitch, which, while acting as a protective



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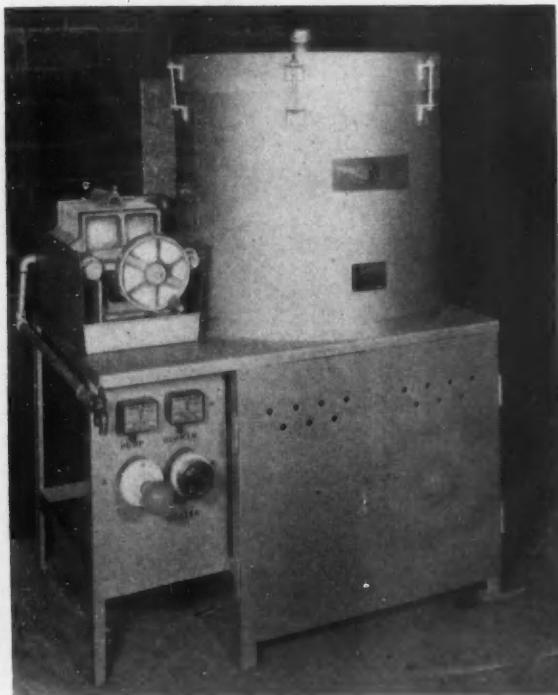
# PUT AN "OIL WELL" IN YOUR SHOP

CONTINUED FROM PAGE 24

Both comparative tests and laboratory analysis of reclaimed oil are used to determine relative quality of crankcase oil after reclaiming. The Akron Bottle Exchange & Supply Co., Akron, Ohio, ran one group of trucks with new oil and another group of trucks exclusively with reclaimed oil. They report that consumption is about the same in both cases and that lubricating qualities in one are about the same as the other when crankcases are drained.

Reports of laboratory analysis are equally favorable to the cause of oil reclaiming. Garage Service Co., Chicago, Ill., advises that reclaimed oil tested at various times checks very favorably with new oil specifications. The Bureau of Standards, Washington, D. C., after analyzing a considerable number of samples of reclaimed oil reported that many of them show as well as new oils in the commonly-measured properties.

Cost of engine maintenance may be reduced through the use of oil reclaimers by draining crankcases at more frequent intervals, according to several operators. Increased mileage between engine overhauls may be expected when crankcases are drained at short intervals and the resulting saving in engine maintenance may be as much as 30 per cent, according to Mr. Kreisa. Several other reports agree with his conclusions.



May, 1930

Cost of reclaiming crankcase oil, as reported by a number of well managed fleets in different sections of the country, is given in the box on the first page of this article. Reports of some of the tests made by these operators were in confidence and for that reason no mention is being made of names of any of the fleet owners.

Several factors contribute to vary the cost of reclaiming oil, among them being labor, overhead, cost of energy, size of reclaiming unit and the amount reclaimed per day. Comparatively few outfits require services of an operator at all times, the more common practice being to have the reclaiming unit operated by a man who has other duties, in which case the charge for labor may be pro-rated. Overhead expense varies widely. If the reclaiming unit is placed in an unused corner of a shop, it is likely that no charge will be made for floor space. On the other hand, if local ordinances make it necessary to place the reclaiming outfit in a separate building, the overhead cost may be relatively high. All reclaiming outfits make use of heat, usually either electricity or steam. The cost of electricity is by no means uniform and it is difficult to estimate the actual cost of steam if supplied from a large boiler plant.

Although economies of reclaiming crankcase oil for a large fleet of trucks are easily figured, it is by no means easy to determine the smallest number of trucks in a fleet which justifies purchase of an oil reclaimer. One of the investigators, previously mentioned, stated that no fleet superintendent with 15 or more

trucks could afford to overlook oil reclaiming. Because of variations due to special conditions, it appears that the owner of a fleet of ten or more trucks should look into the question of reclaiming crankcase drainings.

A successful dealer has found it profitable to install a reclaimer to salvage oil which he drains from customers' cars and trucks. This dealer does not sell the reclaimed oil but uses it in his demonstrators, service trucks and used trucks.

Despite the fact that oil filters, air cleaners and crankcase ventilators reduce the amount of contamination of crankcase oil, reclaiming crankcase draining is by no means a simple process. While inside an engine the crankcase oil is subjected to harsh treatment, it is diluted by gasoline during choking and warming-up period, subjected to conditions favorable to oxidation because of presence of high temperatures and air, harmed by acids which are by-products of combustion, thinned by drops of water, condensed from steam which is formed during the burning of fuel, and mixed with solid foreign matters, including carbon, road dust and particles of metal. Any one of these conditions is bad enough by itself but in combination they may become particularly troublesome. Formation of sludge results from one combination and corrosion of bright metal parts inside the crankcase results from another.

Reclaiming crankcase oil includes removing solid foreign matter and taking out liquids, known as diluents. Solid matter may be removed by filtration, by centrifugal force or by chemical treatment. Diluents are removed by heat in the form of steam or electrically heated elements. Some oil reclaiming outfits remove liquids first and solid foreign matters second, while others remove solids first and liquids last. In either case, reclaimer units may be of the continuous type in which oil passes through the apparatus undergoing each of the processes in turn and being discharged as reclaimed. The other type of reclaimer treats a batch of oil through all the processes before more oil is added.

EVAPORATION OF DILUTION IS ACCOMPLISHED IN THE MILLER OIL PURIFIER BY ELECTRIC HEAT AND FORCED DRAFT OF AIR FROM A BLOWER. BATCHES OF OIL ARE DRAWN INTO THE HEATING CHAMBER BY A MOTOR-DRIVEN PUMP WITHOUT PRELIMINARY SETTLING. HEATER AND BLOWER SWITCHES ARE TURNED ON AS SOON AS THE TANK IS FILLED AND POWER IS CUT OFF AUTOMATICALLY AND THE SIGNAL LAMP LIGHTED WHEN EVAPORATION IS COMPLETED. FOREIGN MATTER IS REMOVED BY ADDING A QUANTITY OF POWDER TO THE OIL AND PUMPING THROUGH A WESTINGHOUSE PRESSURE FILTER PRESS. THE POWDER, MILLENB COMPOUND, REDUCES ACIDITY AND COLLECTS FINE PARTICLES OF CARBON TO FACILITATE REMOVAL IN THE PRESS. FILTER PAPERS MAY BE REMOVED EASILY BY RELEASING PRESSURE IMPOSED BY HAND WHEEL AND THREAD

# SERVICE HINTS



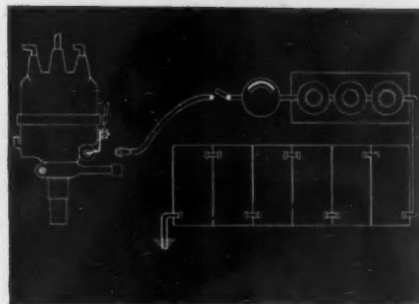
Condenser Test Unit

Mysterious ignition trouble may be traced in some instances to the condenser of the ignition unit. To provide a shop test for condensers the Champion Spark Plug Co., Toledo, Ohio, assembled a unit which can be made in any shop.

Direct current at 270 volts is supplied by six 45 volt radio B batteries and is wired in series through three 10 watt 110 volt electric lamp bulbs and a D.C. 150 millimeter, all assembled in a wooden box.

To make a test, the negative wire of the battery test unit should be grounded to the engine. Close the switch, shown in illustration, with the test lead also grounded and the bulbs will burn brightly and show about 80 on the ammeter. Remove connection from condenser and clip test lead in place and then close switch again. On a good condenser the ammeter needle will flicker and then return to zero quickly. A bad condenser may show 2 or more milliamperes on the dial and a shorted condenser will light the lamps and give reading of about 80.

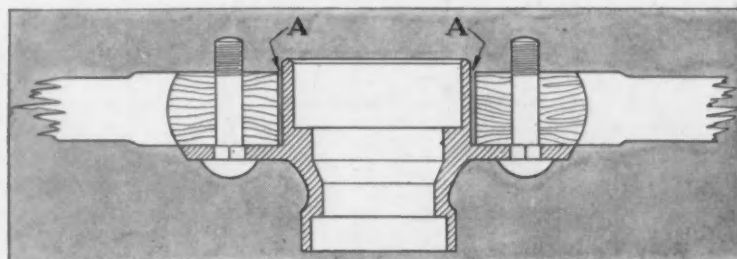
Good condensers will hold a charge for at least 30 seconds. This can be checked by discharging the condenser to ground with a short piece of wire.



The Commercial Car Journal  
and Operation & Maintenance

## From Shop and Factory

**\$5** IDEAS FOR  
SERVICE  
HINTS FROM SHOP  
MEN ARE WELCOME.  
TELL ALL ABOUT THE  
IDEA IN SHOP TERMS  
AND SEND DRAWING  
OR PHOTOGRAPH,  
FIVE DOLLARS WILL  
BE PAID SUCCESSFUL  
CONTRIBUTORS



More Wheel Squeaks

Melvin Black, Jr., Little Blackie's Garage, Jeffersonville, Ind., reports a method of stopping wheel squeaks which he considers an improvement over the linseed oil treatment described in Service Hints in the March issue.

He pours melted lead in the cracks and around the hub, A, after removing hub flange or brake drum, as shown in illustration. The repair stands up in service, according to Mr. Black, who reports that he has used the method where there has been more than 1 in. of space between the hub and end of spokes.

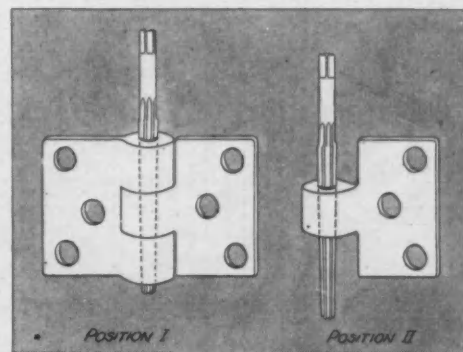
## Wet Gaskets

Soaking cylinder head gaskets in water before installing them in engines is recommended by several factories. General Motors Truck Co. suggests that a cylinder head gasket be soaked at once when a head removal job is ordered, the Mack branch in Boston keeps wet gaskets on hand for such jobs.

## Worn Hinges

Worn door hinges can be repaired by use of a taper reamer and standard taper pins, according to F. C. Hanscom, shop foreman, Cronin Bros., Faribault, Minn.

The taper hole must be slightly larger in the moving section of the hinge than in the stationary half. To ream to this condition the taper reamer is run through the assembled hinge until there is a true taper all the way through the hinge (position 1). Then remove half the hinge assembly and ream it separately, just enough for a running fit after two hinge parts are reassembled (position 2). Ream from top side of the hinge, if possible, and drive pin down from the top.







# NEW TRUCK SALES

## Complete New Truck Registrations for January and February

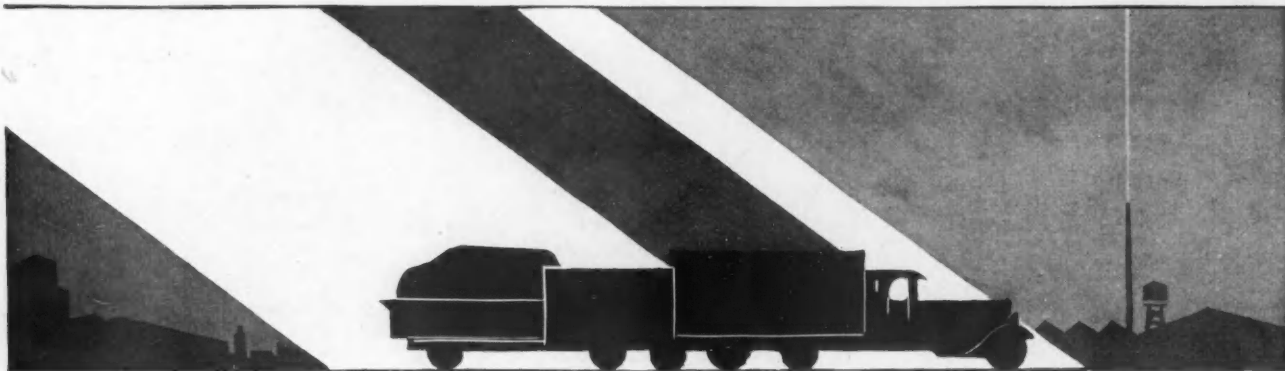
		Atterbury	Atlocar	Brockway-Indiana	Chevrolet	Diamond T	Dodge	Fagel	Fargo	Federal	Ford	G. M. C.	Gotfredson	International	La France-Republic	Mack	Moreland	Relay	Reo	Rugby	Schacht	Selden-Hahn	Sterling	Stewart	Studebaker	White	Willys-Overland	Total Sales by States Including Miscellaneous	
ALA.	Jan. 1930			1	340	1	5		2	2	320	2		25		1			3							3	4	710	
	Feb. 1930				280		7				228	6		18		2			2						2	6	4	559	
	2 mos. 1929				205		20			1	214	11		29		2			6	1						4	2	496	
ARIZ.	Jan. 1930				46		21				85	4		10	5				1	3				2	5	1	184		
	Feb. 1930				51		13				91	3		5		1			4	5					11	2	168		
	2 mos. 1929				95		45		1		139	23		49		2			8							7	390		
ARK.	Jan. 1930				95		10		1		223	3		32		1			5						1	4	379		
	Feb. 1930				101		10		1	1	126	23		25					20	2					1	11	268		
	2 mos. 1929				215		47		1	5	500	23		52												9	929		
CALIF.	Jan. 1930	12			232	3	145	28	7	16	1,112	46		53	2	25	48		66	10			18	7	15	32	17	1,931	
	Feb. 1930	8			342	1	96	33	10	12	1,005	33		27	3	21	25	1	62	3			16	4	11	15	6	1,763	
	2 mos. 1929	18			672	2	418	6	41	2	2,426	182	8	88	6	55	107	1	158	23			63	18	28	78	17	4,610	
COLO.	Jan. 1930				201		51	1	12	1	371	34		66		1		2	17	3					2	7	790		
	Feb. 1930				119		19				176	13		22				1	1	3					2	6	12	376	
	2 mos. 1929				250		118		1	5	314	61	1	99	2	4		19	5						2	14	6	904	
CONN.	Jan. 1930		2		68	5	19		1	3	84	6		15		3			9					4	5	3	3	237	
	Feb. 1930		1		86	12	24		2	3	162	4		18		8		16							5	4	2	365	
	2 mos. 1929		2	7	195	2	61		9	4	208	20		32	1	26		1	56	1				1	9	4	8	657	
DEL.	Jan. 1930		2		21		2				25	5		3		2			1							2	1	66	
	Feb. 1930		3		37		2				39	1		3		1			5									96	
	2 mos. 1929		1		46		8				77	7		8		3			4	1								159	
D. C.	Jan. 1930		8		25	1	23				43	7		1					2					2		5		120	
	Feb. 1930		1		15		3				43	4		1									1	1		2		75	
	2 mos. 1929		2		56	4	4				142	6		3		3			3						1	3	3	233	
FLA.	Jan. 1930			3	292		20				440	6		27		1			12	2						18	6	829	
	Feb. 1930			10	253		19			3	393	6		18		5			12	1						5	9	755	
	2 mos. 1929			5	194		23			1	299	5		18		4			6						2	5	4	566	
GA.	Jan. 1930		4	3	156		10			3	253	8		27		2			6	2						19	4	498	
	Feb. 1930		1	10	203		26				300	7		39					3						1	13	11	620	
	2 mos. 1929		1	12	402		25			2	393	4		18		2			4							16	10	890	
IDAHO.	Jan. 1930				26		5		1		41	3		4					1							1	2	84	
	Feb. 1930				36		4				52	2		3					4							1	1	105	
	2 mos. 1929				30		15				70	1		16		1			5	4						2	1	151	
ILL.	Jan. 1930	14	7		652	103	110		26	18	930	75	1	200	2	18		4	51	7			18	6	4	30	50	2,437	
	Feb. 1930	10	12		681	87	90		21	20	757	38	1	218	8	16		4	35	3			10	4	5	18	39	2,177	
	2 mos. 1929	13	44		1,011	250	381		32	31	1,807	233	26	590	8	67		15	125	9			20	10	6	52	46	5,078	
IND.	Jan. 1930		1	13	334	3	44		9	2	492	37		79		1			19	4	3				7	11	13	1,093	
	Feb. 1930		26		440	10	54		4	3	489	28		88					21	4					10	9	23	1,221	
	2 mos. 1929		1	38	661	13	172		1	17	880	100		176	1	2		4	79	4					12	14	18	2,226	
IOWA.	Jan. 1930			1	268		14			1	180	6		104		1		1	5	2						3	9	602	
	Feb. 1930				299		9				235	6		64		5			14	3						1	11	652	
	2 mos. 1929		1	3	509	2	69		13	4	389	19		195	1	6		1	25	3						5	6	1,256	
KAN.	Jan. 1930			1	65		30		1	1	87	5		11	2				13	1					1	2	7	229	
	Feb. 1930				301		32		3	1	271	14		52					11						6	2	3	18	714
	2 mos. 1929			2	224	2	104		6		327	43		95		3			16	1					2	10	17	863	
KY.	Jan. 1930				69	1	16				95	7		21					3	2	4						2	235	
	Feb. 1930		3		247		22		4	2	265	15		52					12	1	1				2	7	6	10	655
	2 mos. 1929		7		270	7	62		5		305	44		71		6		7	24	3	2				7	8	10	844	
LA.	Jan. 1930				126	1	9				183	6		13					2							1	11	3	355
	Feb. 1930				177		9				177	3		34					3							1	6	3	432
	2 mos. 1929		2		233	1	48		1	2	437	18		64		4			7								8	5	832
ME.	Jan. 1930		1	1	30		12		1		27	3		3		1			6								1	89	
	Feb. 1930				72		8				59			6					7									2	159
	2 mos. 1929				74		10				136	2		4		1			3	2								1	237
MD.	Jan. 1930		3	9	98	4	17		1	2	117	9		26		10			11								7	4	334
	Feb. 1930		12	5	139	3	11		1	3	212	3		17		3			8								8	3	452
	2 mos. 1929		7		200	7	41			6	295	28		29		39	3		28	1						1	20	3	733
MASS.	Jan. 1930		16	8	135	3	44		5	6	253	28		37	2	19			31				3	2	1	4	15	5	624
	Feb. 1930		17	5	126	12	43		8	3	309	25		43	1	14			13				1	2	5	4	12	4	860
	2 mos. 1929		34	17	342	9	130		17	9	840	85		77	4	48			101				3	9	9	5	23	16	1,796
MICH.	Jan. 1930		9		368	5	45		8	12	570	29	6	59	3	10		1	34	2	1			3		1	3	11	1,201
	Feb. 1930		3		354		33		6	5	713	29	1	41	7	2		1	21		4				1	2	4	7	1,251
	2 mos. 1929		9		944	20	174		25	37	1,500	93	8	110	1	15		1	100	8	1					5	24	22	3,146
MINN.	Jan. 1930			5	112	4	18				221	6		28					18							2	4	6	435
	Feb. 1930			3	122	1	22		2	8	279	10		47		4		1	12	2						2	5	13	536
	2 mos. 1929				159	2	57		3	3	489	32		75		6			31	1						2	9	8	880
MISS.	Jan. 1930				115		7				172	4		18														2	318
	Feb. 1930				1		10				257	5		26					1								3	6	502
	2 mos. 1929				1		14				104	2		26					8										278
MO.	Jan. 1930		2	9	176	9	22				212	18		29		6			8							6	3	3	



# BY MAKES AND STATES

## 1930, and Comparative Two-Month Totals for 1929

		Atterbury	Autocar	Brockway-Indiana	Chevrolet	Diamond T	Dodge	Pageol	Fargo	Federal	Ford	G. M. C.	Goifredson	International	La France-Republic	Mack	Moreland	Relay	Reo	Rugby	Schacht	Seiden-Hahn	Sterling	Stewart	Studebaker	White	Willye-Overland	Total Sales by States, Including Miscellaneous
NEB.	Jan. 1930				285	2	33				403	24		80		2			6						1	6	22	868
	Feb. 1930				252	1	18			1	254	13		52		4			3						1	1	10	619
	2 mos. 1929			8	448	2	77				455	57		172		8			25	2					3	6	3	1,281
NEV.	Jan. 1930				6		3				11			2														22
	Feb. 1930				7		3			1	24			2														43
	2 mos. 1929				43		32		1		74			8				6									2	179
N. H.	Jan. 1930				16		3			1	20			2	1				2						1			46
	Feb. 1930				23		6			1	35			3	1				1						1			75
	2 mos. 1929			3	40		5		1		55			2				4									2	112
N. J.	Jan. 1930	19	43	327	27	117	10	17	625	51	4	41	6	77	1	73	5	2	4	18	5	6	44	24	1	587		
	Feb. 1930	18	313	18	56	3	15	21	819	80	2	53	2	64	5	72	4	2	3	12	9	16	38	36	2	1,000		
	2 mos. 1929	28	21	552	8	58																					2,061	
N. M.	Jan. 1930			47		7					34	2		8										3			107	
	Feb. 1930			38		22					39	1		18													86	
	2 mos. 1929			57							64																182	
N. Y.	Jan. 1930	19	78	513	30	182	19	3	651	48	83	2	67	4	67	4	1	5	22	31	5	31	27	1	974			
	Feb. 1930	14	62	547	18	87	18	13	1,007	38	85	1	80	3	41	2	1	4	15	54	11	49	18	2	2,204			
	2 mos. 1929	39	193	1,292	60	426	77	35	1,875	143	222	27	148	5	176	5										5,099		
N. C.	Jan. 1930			240	3	39	3		243	8	29	2	3		3	1								1	7	6	599	
	Feb. 1930			201		15			196	6	17				1												432	
	2 mos. 1929			554		128		4	714	63	46		10		15											13	1,603	
N. D.	Jan. 1930			45		1			70	1				34					1	2							166	
	Feb. 1930			38					41					33					8	3							123	
	2 mos. 1929			105		12			126	15																	366	
OHIO	Jan. 1930	9	4	436	8	52	10	9	656	43	1	77	7	73	1	5	2	3	35	5	10	2	3	4	34	37	1,470	
	Feb. 1930	18	4	350		52	4	3	557	15		73	1	5	2	30	4	12	30	4	12	8	4	35	24	1,224		
	2 mos. 1929	12	23	1,070	19	170	19	27	1,295	92	4	159	2	30	3				94	5	3	2	11	14	70	64	3,248	
OKLA.	Jan. 1930	1	2	183		34	4	10	227	14		48	2	7				20							11	14	581	
	Feb. 1930	1	3	380	1	32	5	11	403	14		62		7				12							4	15	960	
	2 mos. 1929		5	469	10	124	12	15	688	32		129		13				27							5	20	1,590	
ORE.	Jan. 1930			25		11	2	1	73	6		13	2	8				6	6						2	2	148	
	Feb. 1930			78		21	4	2	170	6		39	4	6				19	5							3	331	
	2 mos. 1929			181		55		4	421	49		39	4	6				19	5							18	844	
PA.	Jan. 1930	33	31	468	17	115	13	10	645	51		88	3	48	6	39	8	15	46	16	7	30	37	1	755			
	Feb. 1930	21	32	480	7	112	10	10	808	53		94	5	43	8	38	7	7	9	39	4	25	31	1	872			
	2 mos. 1929	54	53	910	40	336	33	14	1,850	142	10	167	21	87	22	126	10									49	4,161	
R. I.	Jan. 1930	2		20	1	6			24	1		3		5				3									72	
	Feb. 1930	8	1	9		9			58	4		5		3				6									127	
	2 mos. 1929	11		49	1	44		2	92	14		14		5				27								1	278	
S. C.	Jan. 1930			268		21	1	1	243	5		20		1				5							1	3	570	
	Feb. 1930			101		2			107	1		10		1				6									230	
	2 mos. 1929			292		40		1	318	22		42															737	
S. D.	Jan. 1930			97		13			156	9		50						13	1								351	
	Feb. 1930			96		12			105	2		65						11	1								312	
	2 mos. 1929			120		41			207	20		136						19	6								508	
TENN.	Jan. 1930		3	219		39	2	13	288	12		47	2	12				9	1								666	
	Feb. 1930			131		20	1	1	132	7		15		1				5	2								325	
	2 mos. 1929			320		42		3	221	51		24		2				17									713	
TEXAS	Jan. 1930	1	8	623	2	79	12	5	883	26		146	3	8	2	22	5	1							6	21	1,882	
	Feb. 1930	1	6	869	1	58	13	3	1,063	23		183	4	4	3	29	8								6	18	3,370	
	2 mos. 1929		11	1,256	18	209	15	12	1,811	117		366	2	25		17											4,955	
UTAH	Jan. 1930			27		1			107			5						3									146	
	Feb. 1930			27		3			59			11						5									109	
	2 mos. 1929			55		28			124			19						5									248	
VT.	Jan. 1930			20		5			29	5		5						2	1								67	
	Feb. 1930			27		4			35	2		3						2									80	
	2 mos. 1929			44		19		3	66	10		14						10									181	
VA.	Jan. 1930	1	8	275		27	4	9	329	16		36	4	3	3			13									768	
	Feb. 1930		5	377		20	1	3	318	9		36	3					9	1								816	
	2 mos. 1929		3	6		66		1	494	35		64	13	3				22	1								992	
WASH.	Jan. 1930			116		21	9	4	285	22		26						21	7								553	
	Feb. 1930			86		12	6	5	164	7		24						4	5								341	
	2 mos. 1929			230		107		4	544	54		65	1	13	1			50	8								1,158	
W. VA.	Jan. 1930		2	112	3	32	3	1	128	5		21						10									329	
	Feb. 1930			90		28	2	1	123	7		36						7									267	
	2 mos. 1929			131		4		2	217	19		36						11									479	
WIS.	Jan. 1930		2	264	6	38	3	13	389	15		49		4				14	2								873	
	Feb. 1930		1	277	6	26	5	4	310	14		42	1	1				16	2								748	
	2 mos. 1929			253	26	66	9	12	777	38		67		6				35	5								1,386	
WYO.	Jan. 1930			20		19			57	3		8	1						1								115	
	Feb. 1930			17		5			52	6		11															92	
	2 mos. 1929			16		29			53	6		13						3									121	
Total	Jan. 1930	160	249	8,754	242	1,608	41	186	169	13,233	727	12	1,835	43	345	51	28	698	90	21	30	145	97	104	413	440	30,241	
Total	Feb. 1930	135	235	10,332	207	1,269	43	152	162	14,008																		



## TRUCK INDUSTRY NEWS

### GENERAL

In the first quarter of this year the truck industry held up marvelously well under the strain of what is being referred to as national depression. Domestic truck sales were off only  $2\frac{1}{2}$  per cent, when compared with last year's total. U. S. and Canada truck production was off 20 per cent, and American foreign sales were off 30 per cent. Lumping domestic and foreign sales for the first quarter, and comparing them with last year, the industry shows a loss of 15 per cent.

Manufacturers confidently expect a spring and summer pick-up, with August and September hitting high spots.

An intensive educational campaign to secure a wider acceptance of the utility of the motor truck and to combat repressive legislation is being launched by the Motor Truck Committee of the National Automobile Chamber of Commerce.



J. A. DONNELLY,  
NEW MANAGER OF  
THE CHICAGO DISTRICT OF THE DIAMOND T MOTOR CAR CO.



HARRY J. RICHARDS,  
RECENTLY APPOINTED  
CHIEF ENGINEER  
OF THE ATTERBURY  
MOTOR CAR CO.

The activities of this committee will be conducted under the guidance of Edw. F. Loomis.

Heavier tires are now supplied as standard equipment on all Dodge Bros.  $\frac{1}{2}$ -ton trucks. The size has been increased from 4.75/20 to 5.00/20.

A new high speed ratio of 5.14 to 1 is now available for the bevel gear rear axle of Ford Model AA trucks. This ratio gives an increase of speed of approximately 28 per cent over that of the 6.6 to 1 axle. High speed ratios may be installed in axles now in use by replacing pinion and pilot race assembly and differential case and ring gear assembly.

Ford discounts to dealers have been revised upward on a sliding scale from the former minimum of  $17\frac{1}{2}$  per cent as follows:  $17\frac{1}{2}$  per cent on sales up to 50 units; 18 per cent, from 51 to 100; 19, from 101 to 150; 20, from 151 to 500, and 21 per cent for sales in excess of 500.

### FACTORY

Yellow Truck & Coach Mfg. Co. reports net income for year ending December 31, 1929, of \$1,927,966 after all charges. This compares with a net loss of \$1,104,411 for the corresponding period of 1928.

Stewart Motor Corp. announces that all its models from the 1-ton up to and including the 7-ton can be equipped with balloons at a slightly increased cost.

The White Co. reports net earnings of \$2,875,365 as of Dec. 31, 1929. This compares with \$2,320,813 for 1928.

Earnings of the Willys-Overland Co. for the first quarter of 1930 were \$136,443 after all charges except Federal taxes.

Pierce-Arrow net profits for the first quarter ending March 31, 1930, were \$461,401, against \$448,532 last year, an increase of \$12,869.



R. M. HEINRICHS,  
THE NEW GENERAL  
MANAGER OF THE  
BENDIX - WESTINGHOUSE  
AUTOMOTIVE  
AIR BRAKE CO.



# A Cam-and-Lever Steering Gear

**WITH 50% EASIER WHEEL TURN**

Probably the most important thing about the new Ross "Roller-Mounted" Cam and Lever Steering Gear is the fact that it is a *cam-and-lever steering gear*. It has the same true "balance" of steering qualities—the same firm feel of the wheel—the same "road-sense"

—and the same instant response that have always characterized cam-and-lever steering. And in addition, it gives an increase of 50 percent in ease of wheel-turn. Complete information on this remarkable new Ross steering gear will be forwarded on request.

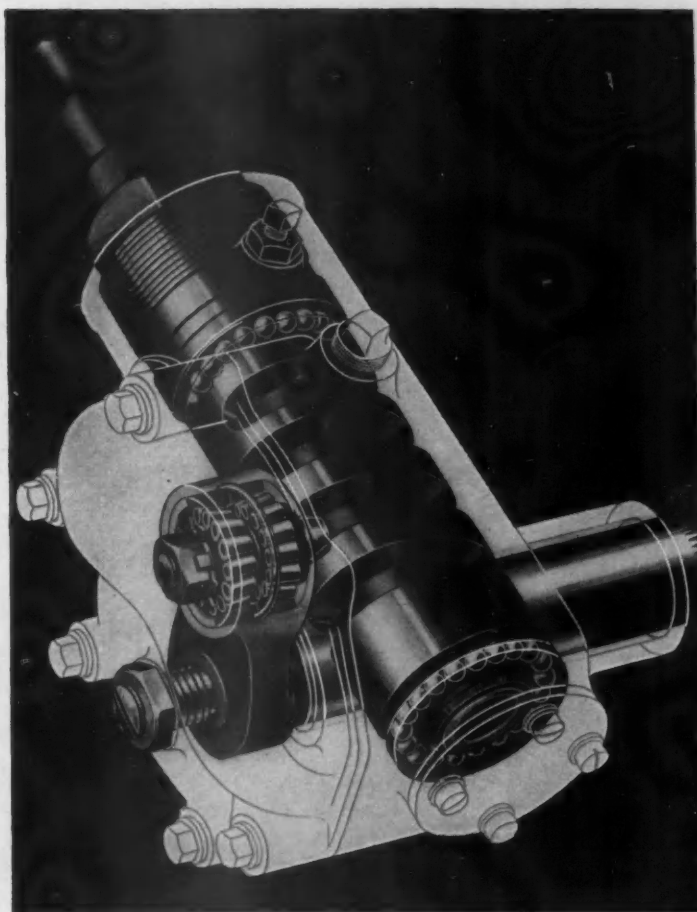
**ROSS GEAR and TOOL COMPANY, Lafayette, Indiana**

**ROSS**

**Cam  
AND  
Lever**

**STEERING**

*"Roller-Mounted"*



*The cam-and-lever principle on which the Ross "Roller-Mounted" Gear is constructed is shown at left. Note the unusual length of the internal lever arm, and the fact that the only contact between the lever-stud and the cam thread is a rolling line-contact.*



GEORGE F. RUSSELL,  
NEW SALES MAN-  
AGER OF THE WHITE  
CO. OF CLEVELAND,  
OHIO

Brockway Motor Truck Corp. and subsidiaries report net profit for the year 1929 of \$280,044 after all charges. This compares with \$1,034,315 at the end of 1928.

It has been learned that the Standard Motor Truck Co. shortly intends to launch a new and aggressive merchandising campaign. Report has it that the program is to include the announcement of a completely new line of trucks. A plan to finance dealer purchase is also said to have been worked out. Factory officials, while refusing to deny this report, state that they have no comment to make at this time.

National Motors Mfg. Co. announces that its Day-Elder Model MF 1½-tonner is now furnished with chromium-plated radiator and headlamps, and that Model MF, as well as Model GF, 1½-ton, are being equipped with single-plate Brown-Lipe clutches and four-speed transmission, with no increase in price.

Federal Motor Truck Co. reports net profits for 1929 of \$502,190, after all charges, which compares with \$550,888 for the previous year.

The International Harvester Co. reports consolidated net profits for 1929 of \$36,779,998. This compares with \$29,685,350 in 1928.

Mack Trucks, Inc., shows net profit for first quarter of \$700,000, which compares with \$1,429,587 for the corresponding period in 1928, according to estimates by Dow, Jones & Co.

## PERSONAL

E. F. Sayers has been appointed to the position of assistant sales manager of the Autocar Co. in charge of branch operations.

G. W. (Steve) Brogan, head of the G. W. Brogan, Inc., advertising agency, and formerly advertising manager of Black & Decker Mfg. Co., was killed recently in an automobile accident.

Richard F. Thrall has been appointed advertising manager of the Relay Motors Corp., Lima, Ohio.



A. T. COLWELL,  
NEWLY APPOINTED  
CHIEF ENGINEER OF  
THOMPSON PROD-  
UCTS, INC.

W. A. B. Hanchett, president of the Reo Motor Car Co., of California, has been appointed zone manager for Reo to supervise sales activities in nine Western States.

F. E. Triebner, district manager for the White Co. at Pittsburgh, has been appointed acting regional manager for the Central Region of that company with headquarters in Cleveland. The vacated post will be occupied by R. L. Fullerton. R. E. Plimpton has joined the sales promotion staff of the White Co.

Kenneth S. Clapp has resigned as director of sales of the United States Air Compressor Co. and has affiliated himself with the Wayne Co., Fort Wayne, Ind. He has also incorporated the Clapp Patent Corp., Cleveland, which controls patents on grease-dispensing apparatus.

Clarence E. Eldridge has been promoted to the post of assistant to the general manager of the Reo Motor Car Co. in charge of general assignments. Elijah G. Poxon succeeds him as general sales manager.

W. R. Angell has been elected president of Continental Motors Corp., succeeding R. W. Judson, who has been made chairman of the board. Roger Sherman and James H. Fenry were elected vice-presidents.

R. C. Allen, until recently manager of the LaFrance-Republic Sales Corp. branch at Newark, N. J., has been appointed to the national users division of the sales organization of the Autocar Co. branch, New York.

Marmont Edson has been promoted to branch manager of The White Co. at Syracuse, N. Y., and W. G. Winslow to branch manager at Utica, N. Y.

F. G. Leland has been appointed supervisor of sales for the Thermoid Rubber Co. in the New England territory.

D. J. Wilber has been appointed manager of trade sales, Department "S," of the Robert Bosch Magneto Co., Inc.

Edward G. Bern has been appointed manager of the Mack-International branch at Chicago. Mr. Bern came from the Minneapolis branch.



WM. T. HUNTER,  
NEW PRESIDENT AND  
GENERAL MANAGER  
OF A. SCHRADER'S  
SON, INC.

# TRUCK INDUSTRY NEWS

# 3631\*

advertisers have  
already said  
this

\* and perhaps more

---

*then why do we say it again?*

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Probably no advertising words are more overworked than these: "the world's standard." Perhaps they are sometimes used lightly; but, when we say them about Ferodo Linings, we mean just what they say.

Ferodo Linings were first introduced to the motoring world decades ago. Today behind the product is a group of allied industries, world-wide in scope, respected not only for size but for quality of output.

Whether it be in Europe, in Asia, in Africa, in Australia, or in America, the name Ferodo stands for products

that are made *not* to a price but to the highest standards of quality that engineering skill has been able to develop—safe standards against which to measure values.

Introduced in America five years ago, Ferodo Linings have each year been favored with a larger endorsement and with a sale that has grown to a point that sometimes astonishes us and always makes us grateful.

So when we say Ferodo Linings are the world's standard—we mean just that. And we hope you will give us a chance to prove it.

## FERODO AND ASBESTOS INCORPORATED

Manufacturers of Ferodo Bonded Asbestos Brake Lining in rolls.  
Ferodo Pat. Die-Pressed Brake Segments, and Ferodo M-R Lining

Factory and General Offices: NEW BRUNSWICK, NEW JERSEY

E-5-30





# IT TAKES STUFF TO FAN FLEET BUYERS

CONTINUED FROM PAGE 26

which he wants a large trade-in allowance. If he has no trade-in, this type will go to the junk yard and buy one. Moreover, if the deal is closed, he will want to pay on 18 or 24-month terms.

5. The buyer who has the engineering complex. This buyer knows more about engineering detail ratios, improved design, etc., than all the engineering staffs in the country. He thinks that the truck was never built to suit his requirements. Probably the best way a salesman can sell this type is to help him think that he is right.

6. The conservative buyer. This man always has time to investigate and analyze new pieces of equipment on the market and keeps himself up to the minute through various trade journals. He welcomes all truck salesmen in order to obtain all information that will help his operation. Salesmen approaching this type of buyer must come prepared with ideas and suggestions and be able to convince him that the equipment recommended is exactly right for the job.

While, obviously, these various types of fleet buyers necessitate different kinds of approach, fundamentally the methods employed for determining transportation requirements are the same for all. The truck salesman who is really desirous of knowing how to sell the fleet operator and how he can assist him to a correct solution of his problem should place himself in the fleet operator's shoes and view the situation from his side of the fence. If he does this he will get a perspective that will greatly simplify his future fleet-selling activities.

Assume for the moment that you are a fleet operator and that you are in the market for new equipment. Also remember that upon your shoulders rests the responsibility of properly investing a large sum of money. What will you do? First you will analyze the work to be done, then you will consider the different ways of doing that work and the possible equipment to be employed. To assure yourself that you are getting maximum value for your expenditure you are going to use every bit of information at your command in weighing the performance and adaptability of a given piece of equipment to your job. In arriving at your decision each of the following elements will be carefully considered:

1. Degree of dependability—
  - (a) Modern design
  - (b) Sturdy construction
  - (c) Accessibility.
2. Traction and pulling ability—
  - (a) Use of pneumatic tires
  - (b) Optional gear ratios.
3. Maneuverability—
  - (a) Ease of steering
  - (b) Acceleration
  - (c) Deceleration
  - (d) Speed.
4. Cab—
  - (a) Comfort
  - (b) Appearance
  - (c) Construction.
5. Body equipment—
  - (a) Design
  - (b) Construction
  - (c) Mounting.
6. Availability of repair parts.
7. Probable cost of operation
8. Initial cost.

That, in a nutshell, is every fleet operator's problem and the truck salesman equipped to help the operator in this respect has a decided advantage.

When discussing an operating problem with a salesman I or any operator wants to feel that the man before him can quickly assimilate the various factors underlying his requirements so that the proposition can be discussed on a common basis. Fleet operators want to be able to talk road conditions, grades, legal limitations, length of route, loading and unloading, materials to be hauled, body design, etc., with him and get his opinions and ideas. These are things, that, in my opinion, a really conscientious truck salesman can and should be able to do. Furthermore, a salesman should be prepared to answer properly all questions concerning his product; he should be familiar with the specifications or have the necessary data at his finger's ends, especially about such items as wheelbase, distance behind the cab, chassis weight, tires, rim sizes, rear-axle type and make, various ratios, engine, clutch, transmission, power take-off, brakes, type of auxiliary equipment that can be used with brakes. He should also have a knowledge of the units comprising competitive makes for purposes of comparison only. Equipped with these fundamentals he will save a lot of time for both of us.

If a salesman is to gain my good will I must have confidence in him and he can acquire that only through

thorough and impartial recommendations. A salesman, for example, may discover after analyzing the requirements of a certain job, that he does not have the right kind of equipment to do that particular work. If he unhesitatingly admits the shortcoming he cannot help but inspire confidence and will in the long run profit by his honesty. Such a man while he may lose the immediate sale will certainly get preference in future dealings.

My point is, "do not sell a piece of equipment that will not fit the job," in order just to make a sale. In the not far distant past many trucks were sold without regard to the requirements of the operation. Equipment was of too large or too small capacity; tires were under capacity; bodies were of incorrect design, etc. However, progress has been made in this respect during the last few years. I am glad to observe both the salesmen and the companies they represent are beginning to realize that it is to their advantage to place only equipment that will meet the job correctly. Salesmen are working closer to the prospective buyer and in doing so are quite a help in solving his problem. On the other hand the purchaser is beginning to know from experience what is needed for his job and is quick to sense true cooperative effort or lack of it.

## Diamond T Makes Line Still Better Looking

CONTINUED FROM PAGE 34

to 1 or 7.8 to 1 as standard, and with a 5.57 to 1 ratio at extra charge. B-K vacuum boosters actuate master cylinders of Lockheed hydraulic brakes on this model. Six wheelbases are offered to carry bodies up to 15 ft. long.

Timken axle Model 65000-H is incorporated in truck Model 503, and drive is taken through radius rods. Ratio of 6.2 is standard and options are given on 7.5 and 8.75 to 1. Body lengths to 17 ft. are suitable for this unit, available in six wheelbases.

The 3-ton worm-drive Model 601 embodies Timken axle 65706-H with radius rods. Nine wheelbases for bodies 20 ft. in length are available.

## Tru-Stop Cable Brake Control

CONTINUED FROM PAGE 45

covering, also prevents the tube from collapsing under load. To keep these wires in place, there is an outer covering of spring wire.

With this type of control, brake actuation is not affected by spring deflection or axle roll. The Tru-Stop is both water-proof and grease-tight.

# *Of course! . . .*

## truck and bus drivers are strong for Lockheed Hydraulics

Any truck or bus company manager will tell you that his men like to drive vehicles equipped with Lockheed Hydraulic Four Wheel Brakes.

There's nothing strange about *that!* Lockheed Hydraulics mean far easier truck or bus operation.

They save the driver physical and mental strain to a degree comparable with the wear and tear they save the chassis.

Judging from the statements made by managers for transportation companies, Lockheed Hydraulics are today one of the chief factors in holding down labor turnover among drivers—a feature which should by all means be considered in selection of trucks or buses.

HYDRAULIC BRAKE COMPANY  
DETROIT, MICHIGAN, U. S. A.

# LOCKHEED HYDRAULIC

*Four* BRAKES *Wheel*

## OVERLOADING ALWAYS EXACTS ITS PENALTY

CONTINUED FROM PAGE 17

point and when carried beyond this point through overloading something must go.

While we have heard owners bragging about how wonderfully their trucks were carrying two and three times their capacity without any trouble, we have found that this bragging was always done while the truck was new. We have also found that trucks subjected to such "wonderful" tasks wind up in short life and in an expensive investment to the operator. Like the gambler who tells only of his winnings, little is said about losses through overloading.

In order to overcome the obstacle of initial cost many salesmen today are pushing their trucks to serve as tractors for use in connection with semi-trailers or for service in large capacity service by the addition of an extra axle. They feel that by using a light 1½-ton truck, with either a semi-trailer or an extra axle attachment to carry three or four tons and sometimes as much as six tons they can at the same time overcome the prospect's resistance to initial cost and furnish proper equipment. It is, however, our experience that any size truck when used in this way, if grossly overloaded, will prove a failure and result in a loss to the operator.

While the argument is quite true that the rear axle of the truck may be as strong as the front axle of a heavier size truck and that the solid axle of a semi-trailer may easily carry this overload, the point remains that a pony is being used instead of a team of horses. The tractor will stand up under considerable overload only if a slow rate of speed is maintained and if operated over smooth roads, but we have never found a driver who will do this. Consequently the engine is speeded beyond its maximum ability, governors—if they are employed—are tampered with and the lighter units all the way through rapidly go to pieces.

While overloading is undoubtedly the main reason for high truck transportation costs, under-capacity operation can be just as costly. There are many operations where heavy equipment is used when lighter and cheaper trucks would be far more economical. Instead of overloading a heavy size truck many operators would profit by splitting the load over several light, high-speed trucks where the deliveries are to be made

in different parts of the city on the same day. The operator who does this saves a great deal of time, furnishes a high class service and increases business. These advantages will pay for the extra drivers and in many cases the investment of several lighter trucks would be no greater than the one larger truck overloaded.

As an illustration of underloading, some time ago we were called in on a deal by one of our salesmen where competition was keen in selling a 3½-ton truck to a wholesale grocer. On meeting the president we learned that

## DAIRY HORSES MUST GIVE WAY TO TRUCK

CONTINUED FROM PAGE 16

the milk industry for house-to-house delivery. However, the requirements of our business are so distinctly different from most forms of delivery service that I have come to the conclusion that it requires an especially-built job and that the conventional types we now use will not continue to be used. The reason for this is plain. The average route requires from 200 to 400 stops and starts, not counting the traffic stops en route, and the delivery man is also a salesman, being stopped many times by the housewives for extra orders. This means that he is required to drive slowly in order to give them a chance to hail him. Now, his sales in all instances will range from 10 to 50 cents—and stops cost money.

The commercial jobs now used are too fast for this type of delivery and incidentally too expensive. We must have a motor with low gear ratio to make the motor efficient and hence a low r.p.m. It would not be practical for us to cut down our equipment to conform to these needs and so we welcome the new types now appearing on the market which are built especially for the kind of delivery such as ours.

In spite of the lack of special equipment, we decided to displace the horse, which in two years more will not be found in our service. Five years ago we retired horses from our wholesale department. There is not the slightest possibility that they will ever be reinstated in either branch. A number of the dairies that were taken into this organization had been using

his principal interest was the best price on a 3½-ton truck with a certain kind of body. After carefully analyzing this man's business and the use to which the truck would be put, we told him we were convinced that two two-ton trucks of much higher speed, equipped with pneumatic tires, would be more economical, and would also aid in increasing his business. He was annoyed by the advice and insisted on buying according to his own judgment with the result that he bought a competitor's truck. Three years later we were again asked to come to this man's office, but this time he asked us to quote on two two-ton trucks. He admitted that we were quite right in our former attitude and later respected us for it. We lost the original sale, but have sold him ever since.

trucks extensively for house-to-house delivery, one of them having motorized 100 per cent. We studied the figures and proceeded to motorize the whole system 100 per cent.

At present the equipment of Western Dairy Products, Inc., is of three classifications: the 1-ton variety, used for house-to-house delivery, because it must be this large in order to get any kind of universal joint and rear axle to be practical; the six-cylinder fast type for longer trips and country runs, and the heavier large trucks for hauling loads to distributing branches. Even in our delivery routes there are occasional calls in the hilly districts for power, where the lighter four-cylinder jobs used on the level ground are not found practical.

When it comes to the question of standardization, there are many things to take into consideration. We would be glad to standardize our entire equipment, but because of the size of the fleet it requires a long time to do so. A complete changeover would be impossible because the costs would be prohibitive. On the other hand, we might standardize on certain types when suddenly new superior models are placed on the market, a certain make might no longer be manufactured, and so on. All this would in the nature of things keep us from complete standardization. Again, a truck which might have but little resale value will have great service value and, equipped as we are, it is an economical matter to replace worn

TURN TO PAGE 60, PLEASE





**1/2 TON Range \$625**      **3/4 TON Range \$695**      **1 TON Range \$745**      **1 1/2 TON Range \$960**      **1 1/2 TON Range \$1265**  
*Super-power*

**2 TON Range \$1545**      **2 1/2 TON Range \$1845**      **3 TON Range \$2080**      **3 1/2 TON Range \$3035**      **4 TON Range \$3795**

*(All prices given here chassis only, f. o. b. Pontiac, Michigan)*

**5 TON Range \$5885**  
*8 1/2-wheel*

**TRACTORS up to 15 TONS**

**3-TON RANGE Model T-44A** (total gross weight, including load 15,000 lbs.); chassis only, f. o. b. Pontiac, Michigan. **\$2080**

## An Added Value

### in the record-smashing 1930 GENERAL MOTORS TRUCK LINE

There is no fundamental change from proved design and performance in this newly added General Motors Truck model. It simply brings to the 3-ton range the economy and profit-earning factors which are steadily piling up records for General Motors Trucks.

Features of this sensational value: a modern 6-cylinder engine provides 76 actual horsepower — an engine famous for long life and economy as well as for ready power and speed; 6 9-16 in. pressed steel frame,

with unique "stress absorber" at the point of maximum strain; 4-wheel truck brakes perfected by a solid year of tests; double-reduction, semifloating type rear axle; easy riding provided and side-sway eliminated by 7-leaved auxiliary springs.

There is no greater value, dollar for dollar, available today in this capacity range. And that is true of every model in the whole line: 11 basic models, 33 chassis, 118 different types.

Only General Motors Trucks

could have produced such a line of trucks at such prices.

Owners of trucks cannot wisely overlook values and profit-ability so clearly apparent. Neither can men who sell trucks. The 1930 line of General Motors Trucks fairly demands investigation—right now!

GENERAL MOTORS TRUCK COMPANY, Pontiac, Michigan (Subsidiary of Yellow Truck & Coach Mfg. Company) ... GENERAL MOTORS TRUCKS ... YELLOW CABS ... COACHES ...

Factory Branches, Distributors, Dealers—in 1500 principal cities and towns.

(Time payments financed at lowest rates by our own Y. M. A. C.)

# GENERAL MOTORS TRUCKS

# WHAT are you using for OIL

oil and gasoline



poor lubrication

oil much too heavy



insufficient lubrication

good oil... correct grade



complete safe lubrication

Right at this moment you don't know what's in the crankcase of No. 7 truck! Three hundred miles ago, you filled it up with new oil. Now it may be a mixture of oil, gasoline, carbon and dirt. In that case it certainly is not properly lubricating that expensive motor.

On the other hand, it may be just as good, and lubricating equally as well as the moment it was put in the crankcase. Perhaps it is good for another 500 miles. But regardless, in two hundred more miles you will undoubtedly throw it away.

You are merely guessing! And guesswork is costly, in view of the fact that most repairs are the direct result of faulty lubrication.

## *Visco-Meter eliminates guesswork*

By scientifically and continuously measuring the lubricating quality of the oil in the crankcase, the Visco-Meter eliminates entirely, guesswork and slipshod methods in lubricating practice. A glance at the Visco-Meter dial tells you instantly and accurately how "worn" or thin the oil is.

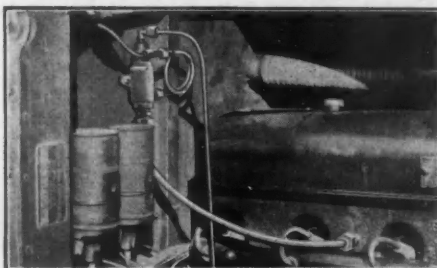
The Visco-Meter is not a pressure gauge, nor is it a volume indicator. It is a new, but thoroughly tested device which indicates the degree of thin-

ness or thickness (viscosity) of the oil. And this, after all, is what you really want to know about the lubricant. Oil dilution is quickly revealed; likewise the other evil, oil too heavy to lubricate properly.

The Visco-Meter measures viscosity under actual operating conditions and not while the motor is cold. This is important: oil thins as the motor becomes heated, and the actual lubricating viscosity can be determined only after the motor has been running 5 or 10 minutes. Accurately, the Visco-Meter makes this measurement... Clogged lines, leaks and low oil and pressures are also conspicuously indicated.

## *Simple... Easy to Install*

The Visco-Meter is sturdily built with only one moving part. This, a rugged unloading valve, never requires attention or replacement. A mechanic can install the Visco-Meter in 30 minutes' time. The dial can be attached to the instrument panel, to the steering column or in place of the present oil pressure gauge. Completely illustrated instructions are furnished for each individual make of car. End the guesswork now. Write for full particulars. The Visco-Meter Corporation, 316 Grote St., Buffalo, N. Y.



# The VISCOMETER

*Takes the Guesswork Out of Motor Lubrication*

# Balance . . .

Skilled engineering and carefully selected units result in perfect balance found in Day-Elder trucks and buses. Individual attention is given to even the smallest details and every chassis is routed through the factory with the same studied precision as that of any custom-built job. This insures long life with minimum upkeep and replacements.

To achieve Day-Elder standards, only the highest grade of workmanship is employed. Appreciation of this policy is best reflected in the type patronage, Day-Elder enjoys.

To retain this high class of patronage, Day-Elder spares no effort to keep its design abreast with practical engineering accomplishments.



## DAY-ELDER

NATIONAL MOTORS MFG. CO. IRVINGTON, N. J.

Export Office at 15 Park Row, N. Y. C.



## Sterling Adds Shaft Drive Six-Wheelers

CONTINUED FROM PAGE 37

The four-wheel-drive units of these models are Timken-Detroit worm-driven tandems, which were described in detail in the May, 1929, issue of *COMMERCIAL CAR JOURNAL*, pages 38 and 39. They provide a final rear-axle ratio of  $7\frac{1}{2}$  to 1.

Westinghouse air brakes are used, having 146 sq. in. of braking surface on each wheel. The hand brake is mounted on the propeller shaft. The frame has 9-in. wood inlaid channel side rails and is supported by four semi-elliptic springs. Hannum worm-and-nut steering gears are employed. Metal wheels, equipped with 40 x 8-in. pneumatics all around, are standard.

Regular equipment includes oil side and tail lamps, Hubodometer, air cleaner, gascolator, oil filter.

## Schacht Offers De Luxe Series in Six Models

CONTINUED FROM PAGE 35

Optional gear ratios in rear axles are now provided on special order on Series 20 and 25, as well as on the heavier models, as previously announced. Standard ratio on the 20 is 5.67 to 1 and a 6.8 to 1 is available for hilly country service. Series 25 is regularly shipped with 7.4 to 1 ratio but a 6.16 to 1 gear will be furnished for higher speeds under favorable conditions.

Prices of de luxe chassis are given in the table on page 35. Detailed specifications of chassis in the de luxe series will be found in specifications table in this issue.

## Operate Your Shop As a Separate Business

CONTINUED FROM PAGE 21

willing to pay time and a half.

To take care of this expense it is necessary to have a steady and efficient flow of work. We average 25 jobs a day at about \$40 a job, although we have quite a few jobs that run up to \$500 and \$1,000. Over the year 1928 our books show an average of 500 jobs a month. One month, November, shows a gross income of \$21,900, of which \$14,000 is charged against material or parts and the rest to labor. Some may think this very high for parts, but it must be understood that truck parts come higher than passenger car parts.

It is our policy to keep abreast of the times in matters of shop equip-

ment and method. Our service department is equipped with the most modern tools and machinery. A new special lathe, radial drill press, milling machine for cutting gears, etc., and key-seater are some of the recent acquisitions. A device for turning brake drums without removing them from the wheels is another improvement.

Specialization is the keynote of our service force. The department is organized into groups specializing respectively in engines, transmissions and rear axles, differentials, electrical equipment ignition, lighting and carburetors, clutches and steering gears and chassis. We are also working to establish repair work on a flat rate price basis to the customer. Many jobs already have been placed on that basis and in time we will place more.

All our branch service departments, of which there are six along the Pacific Coast, use the same system of bookkeeping and charging, and all are showing a profit, with the possible exception of the one at Seattle which has just been established.

This doesn't mean that we make money every day or every month. Some months we go a little behind. There are dull months in this business as well as others but our good months make up for the poor ones and the end of the year always shows a profit. After all, it is just a matter of selling for more than you buy, and knowing your exact costs. I would say that a good cost-accounting system and reasonable ability in management should turn any service department into a profit-showing business if it is being operated at a loss now.

## Reo Prices Super-Tonner Speed Wagon at \$1,095

CONTINUED FROM PAGE 42

mission are mounted in unit with the engine. Final drive is furnished by a semi-floating bevel-type rear axle providing a ratio of 5.2 to 1. Torque and drive are taken through the springs, which support a 6-in. frame. Service brakes are four-wheel Lockheed hydraulic, and hand is transmission type. Standard equipment includes windshield wiper, speedometer, oil gage, tire carrier and front bumper.

Reo's new auxiliary transmission, which attaches to the front of the rear axle to form a two-speed rear axle makes eight speeds available on all Reo Model G 3-ton chassis, with a ratio range of 6.4 to 1 in high, 77.8 to 1 in low. The two speeds of this unit, direct and 1.92 to 1, are controlled by a short additional shift lever located conveniently in the cab.

## Dairy Horses Must Give Way to Truck

CONTINUED FROM PAGE 56

parts. Where the organization is small, complete changeover at one time is possible and advisable. Nevertheless, we are approaching complete standardization as nearly as we can.

Milk delivery wagons in Los Angeles have always been of the open, topless variety. This was because climatic conditions did not require closed jobs. Even rainy weather does not interfere with delivery of dairy products, and the open job was much better for loading and unloading and entering and leaving the wagon than a closed cab would have been. When trucks were introduced, the express bodies were used, because it was just as economical to have a top as not to have one.

There has been a distinct departure from the open or even express types recently. Closed jobs are now being employed because of the increasing demand for quality merchandise, which extends even to the delivery end, and Western Dairy Products, Inc., is keeping in step with the developments. There are advantages to the closed job, too, for the freshness of the goods can be better retained when covered than when transported in open vehicles. The merchandising angle has, therefore, injected itself into the picture to the extent of changing from the open to the closed models, which are being acquired for the future and are gradually replacing the old varieties.

Economical transportation is extremely important in the dairy business. We operate on a very close margin, and the delivery cost is a substantial part of the total cost of operation. Besides this, we have to keep the customer in mind constantly, for the public is in closer touch with our delivery than perhaps any other kind. The laundry most nearly approaches it, and still the housewife can get along for a day or so should the driver fail to pick up the bundle, whereas she would become mighty upset about it if she saw the milkman go whizzing past because he did not hear her calling him, due to the noise of the motor, or else he goes so fast that she hasn't time to attract his attention.

With the improved, specially built models coming in, these objections will be eliminated, because with a lower r.p.m. there will be less noise to the motor, and with a lower gear ratio the traveling speed will be cut down to the required pace. Whatever the future developments, I am certain that the dairy industry will never again return to the horse, even for house-to-house delivery.

# 87,794 MILES

*-and good for more!*



This tire was on the left dual rear. The other tires on the truck gave the following mileages:

Left Front, - -  
73,331 miles

Right Front, - -  
61,090 miles

Rear Right Duals,  
69,685 miles

Left Dual Rear, -  
87,794 miles

Average for all Six,  
74,896.5 miles

## on Harrison-Shields Relay

TELEPHONE  
GRANT 0935-6

BRANCH OFFICE - 229 ATWOOD ST.  
MAYFLOWER 3300



# Harrison-Shields Co.



Office and Warehouse  
1607-11 CENTRE AVENUE  
Pittsburgh

**HAULING CONTRACTORS  
MOVING DISTRIBUTORS  
AND STORAGE**

March 25, 1930.

Mueller Brothers,  
5101 Baum Blvd.,  
Pittsburgh, Pa.

Subject: Tires on Relay Truck Equipment.

Gentlemen:

With further reference to our conversation regarding the mileage on our Model 60C Relay Truck which operates between Pittsburgh and Cleveland, wish to say that this truck does approximately 310 miles a day, six days a week, and the tires, in fact the whole truck, is doing exceptionally good work.

This truck is equipped with pneumatic tires all around and the first two tires on the rear wheels were taken off at 69,685 miles on account of one of the dual tires having been cut. The other tire we kept for a spare. The other two tires on the rear wheel were taken off at 87,794 miles, and although they looked good for more miles we were well satisfied and thought it best to remove them on account of the bad weather setting in and we did not want to take any chance of delay.

We are fully satisfied that the Relay axle design effects a saving to the operator in cost of operation, particularly in the cost of tires, and without question it is the writer's opinion that this exceptional mileage is due to the action of the Relay axle.

At this writing, this particular truck has gone over 100,000 miles and we have not replaced any axle shafts, track, pinion, or differential gears, in fact, no gears or shafts of any nature, proving it to be the most successful rear axle we have ever operated.

Yours very truly,

HARRISON-SHIELDS CO.

*J. A. Harrison*



Harrison, member of the firm of Harrison-Shields Co., of Pittsburgh, Pa., and Sam Martin, driver of the above vehicle, being duly sworn to law, claim that the information given above is correct to the best of their knowledge.  
this ... 28th day of March, 1930.

*Jane F. Lawler*  
JANE F. LAWLER  
MY COMMISSION EXPIRES  
MARCH 6th, 1931

J. A. Harrison  
By *J. A. Harrison*  
Sam Martin  
By *Sam Martin*





# MILLIONS of MILES Prove Relay's Tire Savings

Day in and day out this Relay truck operates over the mountainous roads between Cleveland and Pittsburgh. The record mileage of 87,794 is accounted for by virtue of Relay's saving 70% of the horizontal impacts received when carrying a full load. There is no slipping and spinning of the Relay rear wheels when starting due to the fact that the load moves before the rear wheels start to turn. In this way the rear wheels are pulled when starting rather than pushing the truck in order to gain momentum. As illustrated in the above picture the tread marks left by the Relay are clear and distinct as contrasted with those of the conventional truck whose rear wheels must spin in order to gain traction when starting. And in stopping, the tread marks of the Relay show no signs of the sliding which is so hard on tires. The Relay drive gives constant traction at all times whether starting, stopping or meeting road irregularities.



*This is the truck which was equipped with the tires giving this record mileage. The daily mileage is approximately 310 miles over the scheduled route between Cleveland and Pittsburgh.*

RELAY MOTORS CORPORATION will gladly send you your copy of this monograph on "Trucking Costs." Please sign this card and return.



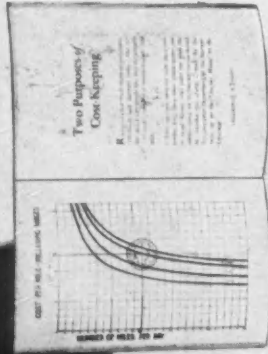
**CLIP & MAIL THIS  
COUPON TODAY**

\_\_\_\_\_  
Name of Company

\_\_\_\_\_  
Address

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title



A valuable 48 page book just published

# Why Relay Saves 3¢ Per Average Mile



**T**HE Relay Drive does for the truck forward what the springs do upward. The load instead of being rigidly fixed above the center of the rear wheels is free to swing pendulum-like below the wheel center. This horizontal oscillation reduces the shocks of travel approximately one half; uses the load to help propel and retard the vehicle; and gives greatly added traction. Use of the oscillating drive reduces tire costs one-third, fuel cost a tenth, and depreciation and maintenance costs one-fourth each, giving an average saving in the total cost of transportation of 3¢ per mile.

The results of a questionnaire to 300 Relay owners show actual tire mileage 68% greater than with conventional trucks. By interposing a horizontal defense against road shock, the impacts suffered over normal roads at normal speeds are shown to be reduced approximately one-half. If a conventional truck has a life of 4

years, the Relay truck will have a life one-third greater, or 5 1/3 years. The lowered impacts result in reduced crystallization in all moving parts. This reduction gives an average saving in repairs amounting to more than a third. These lessened road blows naturally benefit the cargo as well as the truck. Less breakage of perishable goods, better condition of milk, furniture, flowers, etc. are the results. A truck that can negotiate difficult road conditions gives added daily mileage. Speed need not be lessened because of rough going. More time is spent on the road rather than in the repair shop thus further increasing average mileages. The savings with Relays have been proved by the experience of hundreds of owners,—3¢ per average mile.

**RELAY MOTORS CORP., Lima, Ohio**

# COMMERCIAL CAR JOURNAL

AND OPERATION & MAINTENANCE

## TABLE OF TRUCK SPECIFICATIONS

Corrected Each Month From Data  
Supplied Direct by Manufacturers

(KEY TO ABBREVIATIONS ON PAGES 78 AND 79)

**T**HIRTY models of trucks which make their first appearance in Specifications Tables in this issue range in capacity from 1000 lb. to a 15-ton tractor-truck. Makes, models and capacities are:

Brockway: 60 1-ton, 140 2½-ton, 190 and 195 3-ton, 195 3-ton, 220 4-ton, and 250 5-ton. Indiana models: 60 1-ton, 140 2½-ton, 190 3-ton, 250 5-ton.

Federal A6TW 2½-ton.

General Motors 9006 5-ton.

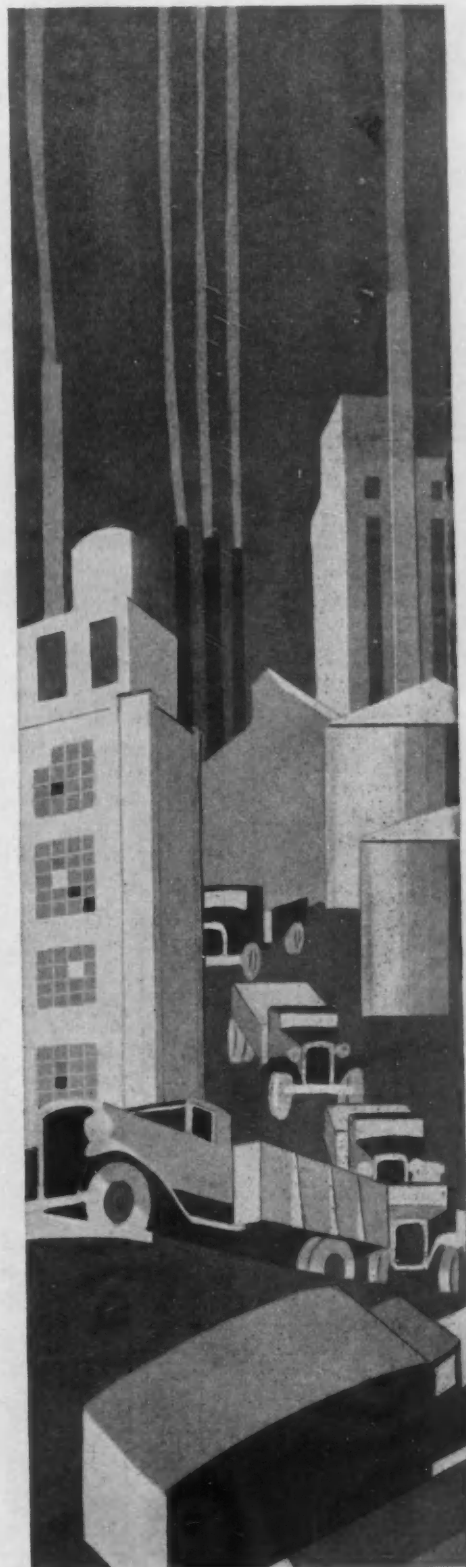
Hahn 317 H 1½-ton, Selden 317 S 1½-ton.

Hug 98 5-ton.

LaFrance Republic F2 2-ton.

Reo DF Tonner.

Ward LaFrance: 25R 3-ton, 30B and 30RU 3½-ton, 35R and 4E6 4-ton, 45D 4½-ton, 50C 5-ton, 50D-7 and 70C-7 5½ tons and more, 75D a tractor-truck model.





Line Number	Make, Model and Capacity	General		Tire Size		Engine										Fuel System	Electrical System		Line Number								
		Chassis Price	Standard W.B.	Max. W.B. Furnished	Gross Vehicle Wt. (See Key Note)	Chassis Wt. (Stripped)	Front	Rear	Make and Model	Number of Cylinders Bore and Stroke	Piston Displacement	N.A.C. Rated H.P.	Max. Brake H.P. at Specified R.P.M.	Valve Arrangement	Camshaft Drive	Piston Material	Dia. Main Bearings	Length Main Bearings		No. Main Bearings	Oiling System	Governor Make	Carburetor Make	Fuel Feed	Ignition System Make	Generator, Starter Make	
1000 Pounds																											
1	Chevrolet Int. Com.	400	107	107		1815	B 4.50/20	B 4.50	Own	6-3 1/2 x 3 1/2	193.9	26.3	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	1	
2	Dodge Bros. Mer. Exp.	545	109	109	3850	1900	B 5.00/20	B 5.00/20	Own	4-3 3/4 x 3 1/2	175.4	21.0	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	2	
3	Fargo Packet	595				1935	B 5.00/19	B 5.00/19	Own	6-3 1/2 x 3 1/2	174.9	21.6	45-3000	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	3	
4	Gen. Motors T11-1001	625	109		3800	1980	B 5.50/19	B 5.50/19	Pontiac	6-3 1/2 x 3 1/2	200.3	26.3	58-3000	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	4	
5	Reo. Jr. 15	785	115				B 6.00/18	B 6.00/18	Con 16E	6-3 1/2 x 4	214.7	27.3	60-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	5	
6	Rugby	614			4000	2150	B 5.00/19	B 5.00/19	Con 22-A	6-3 1/2 x 4	199.0	25.3	57-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	6	
7	Whippet	96A	360	103	3100	1691	B 4.75/19	B 4.75/19	Own	4-3 1/2 x 3 1/2	145.7	15.6	48-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	7	
8	Willys Six	98B	525	110	3400	1903	B 5.00/19	B 5.00/19	Own	6-3 1/2 x 3 1/2	193.0	25.3	65-3400	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	8	
1500 Pounds																											
9	Dodge Brothers	695	124	124	4760	2260	B 5.50/20	B 5.50/20	Own	4-3 1/2 x 4 1/2	175.4	21.0	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	9	
10	Dodge Brothers	745	124	124	4760	2380	P 30x5	P 30x5	Own	4-3 1/2 x 4 1/2	175.4	21.0	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	10	
11	Dodge Brothers	795	124	124	4860	2360	B 5.50/20	B 5.50/20	Own	6-3 1/2 x 3 1/2	208.0	27.3	63-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	11	
12	Dodge Brothers	845	124	124	4860	2480	P 30x5	P 30x5	Own	6-3 1/2 x 4 1/2	208.0	27.3	63-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	12	
13	Fargo Clipper	725				2340	B 5.50/18	B 5.50/18	Own	6-3 1/2 x 4 1/2	195.6	23.4	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	13	
14	General Motors 1501	695	130	141	5400	2625	B 5.50/20	B 5.50/20	Pontiac	6-3 1/2 x 3 1/2	200.3	26.3	58-3000	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	14	
15	General Motors 1701	735	130	141	5500	2650	B 5.50/20	B 5.50/20	Pontiac	6-3 1/2 x 3 1/2	200.3	26.3	58-3000	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	15	
16	Int. Harv't Spec. Del.	124	124	124	5200	2200	B 5.25/20	B 5.25/20	Wau XA	4-3 1/2 x 4 1/2	173.0	19.6	30-2700	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	16	
17	Kleiber	1170	121		4900	2400	B 5.50/20	B 5.50/20	Con	6-2 1/2 x 4 1/2	185.4	19.8	46-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	17	
18	Rugby	725	110			1760	B 5.00/19	B 5.00/19	Con	6-2 1/2 x 4 1/2	185.4	19.8	46-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	18	
19	Studebaker GN-P	845	115			2325	B 6.00/19	B 6.00/19	Own	6-3 1/2 x 4 1/2	221.4	27.3	71-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	19	
1 Ton																											
20	Atterbury	1095	132	145	6915	3530	P 30x5	P 30x5	Lye WRC	6-2 1/2 x 4 1/2	185.0	18.2	60-3000	L	G	C	2 1/2	7	4	PC	No	Zen	G	A-L	A-L	20	
21	Brookway	132	132	141	6000	3200	P 30x5	P 30x5	Con 26B	6-3 1/2 x 4 1/2	214.7	27.3	61-3000	L	G	C	2 1/2	7	4	PC	No	Zen	G	A-L	A-L	21	
22	Brookway	132	132	141	6000	3435	P 30x5	P 30x5	Con 27B	6-3 1/2 x 4 1/2	248.2	27.3	65-2700	L	G	C	2 1/2	7	4	PC	No	Zen	G	A-L	A-L	22	
23	Commerce	1600	142			3900	P 30x5	P 30x5	Bud HS6	6-3 1/2 x 4 1/2	211.6	27.3	62-2200	L	G	C	2 1/2	7	4	PC	No	Zen	G	A-L	A-L	23	
24	Diamond T	785	128	128	6500	3050	P 30x5	P 30x5	Bud H199	4-3 1/2 x 4 1/2	198.8	22.5	57-3000	L	G	C	2 1/2	7	4	PC	No	Zen	G	A-L	A-L	24	
25	Diamond T	885	135	135	6500	3150	P 30x5	P 30x5	Bud J214	6-3 1/2 x 4 1/2	214.7	27.3	61-3000	L	G	C	2 1/2	7	4	PC	No	Zen	G	A-L	A-L	25	
26	Dodge Brothers	795	133	133	5840	2590	B 6.00/20	P 32x6	Own	4-3 1/2 x 4 1/2	175.4	21.0	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	26	
27	Dodge Brothers	810	133	133	5840	2470	P 34x5	P 30x5	Own	4-3 1/2 x 4 1/2	175.4	21.0	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	27	
28	Dodge Brothers	895	133	133	5940	2690	B 6.00/20	P 32x6	Own	6-3 1/2 x 3 1/2	208.0	27.3	63-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	28	
29	Dodge Brothers	910	133	133	5940	2570	P 30x5	P 30x5	Own	6-3 1/2 x 3 1/2	208.0	27.3	63-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	29	
30	Dodge Brothers	1095	140	140	6205	2955	P 30x5	P 30x5	Own	6-3 1/2 x 3 1/2	208.0	27.3	63-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	30	
31	Dodge Brothers	1110	140	140	6205	2985	P 32x6	P 33x5	Own	6-3 1/2 x 3 1/2	208.0	27.3	63-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	31	
32	Dodge Brothers	1140	140	140	6205	3000	P 32x6	P 32x6	Own	6-3 1/2 x 3 1/2	208.0	27.3	63-3200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	32	
33	Fargo Freight	795				2725	B 6.00/20	P 32x6	Wau XA	4-3 1/2 x 4 1/2	174.9	21.6	40-2200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	33	
34	Federal	980	127	151	7000	2975	B 6.00/20	P 32x6	Wau XA	4-3 1/2 x 4 1/2	173.0	19.6	40-2200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	34	
35	Federal	1090	132	156	7000	3240	B 6.00/20	P 32x6	Con 17E	6-3 1/2 x 4 1/2	215.0	27.3	60-2600	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	35	
36	Fisher	1400	140		6400	3250	P 30x5	P 30x5	Con 31L	6-2 1/2 x 4 1/2	185.0	19.8	44-2200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	36	
37	Garford	1600	142	162		3900	P 30x5	P 30x5	Bud HS6	6-3 1/2 x 4 1/2	241.6	27.3	52-2200	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	37	
38	General Motors 1703	745	130	141	6000	2870	B 7.00/20	P 30x5	Pontiac	6-3 1/2 x 3 1/2	200.3	26.3	58-3000	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	38	
39	General Motors 2201	895	130	152	6300	2950	B 6.50/20	P 32x6	Pontiac	6-3 1/2 x 3 1/2	200.3	26.3	58-3000	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	39	
40	General Motors 2501	1235	130	152	6800	3375	B 6.00/20	B 7.50/20	Buick	6-3 1/2 x 4 1/2	257.5	28.3	76-2500	L	G	C	2 1/2	8 1/2	4	PC	No	Car	V	D-R	D-R	40	
41	Gramm-Bernstein	129	146			3020	P 30x5	P 30x5	Lye CT	4-3 1/2 x 5	220.9	22.5	38-2150	L	G	C	2 1/2	7	4	PC	No	Zen	G	A-L	A-L	41	
42	Hahn	124	141		6500	3100	P 30x5	P 30x5	Con 29L	6-2 1/2 x 4 1/2	185.0	19.8	45-2800	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	42	
43	Indiana	132	141		6000	3200	P 30x5	P 30x5	Con 26B	6-3 1/2 x 4 1/2	214.7	27.3	61-3000	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	43	
44	Indiana	137	149		6500	3435	P 30x5	P 30x5	Wau XA	6-3 1/2 x 4 1/2	248.2	27.3	65-2700	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	44	
45	Indiana	137	149		6500	3435	P 30x5	P 30x5	Con 27B	6-3 1/2 x 4 1/2	248.2	27.3	65-2700	L	G	C	2 1/2	6 1/2	3	PC	No	Car	V	D-R	D-R	45	
46	Int. Harv. 6 Sp. Spec.	124	124	124	6213	2513	P 30x5	P 30x5	Wau XA	4-3 1/2 x 4 1/2	173.0	19.6	30-2700	L	G	C	2 1/2	6 1/2	3	PC	No	Car					

Line Number	Radiator Make	Clutch		Gear Set		Universal Make and No.	Rear Axle		Front Axle		Brakes		Frame		Body Mounting Data		Springs		Line Number							
		Type and Make	Make and Model	Location	No. of Forward Speeds		Aux. Locat. and Speeds	Make and Model	Final Drive and Type	Drive and Torque	Gear Ratios		Make and Model	Service	Area Service Brakes	Hand	Steering Gear Make	Dim. Side Rail		Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear	Auxiliary Type
											Reduc. in High	Reduc. in Low														
1	Har	P.Own	Own Int.	U	3	Own	Own Int.	S	3.82	12.7	Own Int.	L4IH	121	CX	Own	5x1 1/2 x 4	C	26 1/2	43 1/2	35 1/2 x 1 1/2	53 1/2 x 1 1/2	N	1			
2	McC	P.Roc	Own	U	3	U-P	Own	S	4.7	14.3	Own	L4IH	121	CX	War	5x1 1/2 x 4	C	26 1/2	43 1/2	35 1/2 x 1 1/2	53 1/2 x 1 1/2	N	2			
3	McC	P.Own	Own	U	3	M.M.	Own	S	4.7	14.3	Own	L4IH	121	CX	War	5x1 1/2 x 4	C	26 1/2	43 1/2	35 1/2 x 1 1/2	53 1/2 x 1 1/2	N	3			
4	Lon	P.Own	Pontiac	U	3	Pontiac	Pontiac	S	4.42	14.7	Pontiac	S4IM	200	TX	Jac	5x1 1/2 x 4	C	52 1/2	20	36x2	54x2	N	4			
5	Har	P.B&B	W-G	U	3	Spi	Own	S	4.4	14.6	Adams	S4IM	178	41	War	5x1 1/2 x 4	C	52 1/2	20	36x1 1/2	55x2	N	5			
6	McC	P.B&B	Own	U	3	Spi	Own	S	4.4	14.6	Adams	S4IM	178	41	War	5x1 1/2 x 4	C	52 1/2	20	36x1 1/2	55x2	N	6			
7	Fed	P.B&B	Own	U	3	M.M.2	Own	S	4.55	14.7	Own	BO4YM	190	4Y	Own	5x1 1/2 x 4	C	52 1/2	20	35 1/2 x 1 1/2	49 1/2 x 1 1/2	N	7			
8	Fed	P.B&B	Own	U	3	M.M.2	Own	S	4.6	13.4	Own	B4IM	147	41	Own	5x1 1/2 x 4	C	52 1/2	20	36x1 1/2	49 1/2 x 1 1/2	N	8			
9	Fed	P.B&B	W-G	U	3	Spi	Own	S	5.63	21.2	Own	L4IH	189	TX	Han	6x2 1/2 x 4	C	66 1/2	31	37 1/2	39x2	48x2 1/2	N	9		
10	Fed	P.B&B	W-G	U	3	Spi	Own	S	5.63	21.2	Own	L4IH	189	TX	Han	6x2 1/2 x 4	C	66 1/2	31	37 1/2	39x2	48x2 1/2	N	10		
11	Fed	P.B&B	W-G	U	3	Spi	Own	S	5.11	19.2	Own	L4IH	189	TX	Han	6x2 1/2 x 4	C	66 1/2	31	37 1/2	39x2	48x2 1/2	N	11		
12	Fed	P.B&B	W-G	U	3	Spi	Own	S	5.11	19.2	Own	L4IH	189	TX	Han	6x2 1/2 x 4	C	66 1/2	31	37 1/2	39x2	48x2 1/2	N	12		
13	Own	D.Own	Own	U	3	Own	Own	S	4.86	16.1	Tim 11709	B4IM	308	41	Jac	6x2 1/2 x 4	C	87	48	34	38x2	50 1/2 x 2 1/2	N	13		
14	Lon	P.Own	Own	U	3	M.M.	Tim 51500	S	4.86	16.1	Tim 11709	B4IM	308	41	Jac	6x2 1/2 x 4	C	87	48	34	38x2	50 1/2 x 2 1/2	N	14		
15	Lon	P.Own	Own	U	3	M.M.	Tim 51505	S	4.86	16.1	Tim 11709	B4IM	308	41	Jac	6x2 1/2 x 4	C	87	48	34	38x2	50 1/2 x 2 1/2	N	15		
16	Lon	P.Roc	M.M.	U	3	M.M.4	Eat 502	S	4.45	15.1	Eat 200F	B4IM	256	21	Ros	4 1/2 x 1 1/2 x 4	T	86 1/2	50	32	40x2	53x2	N	16		
17	Fed	P.Own	B-L 20	U	3	Spi	Tim 52604	S	4.9	15.8	Own	L4IH	440	TX	Ros	6 1/2 x 2 1/2 x 4	T	84	60	32	38x2	52x2	N	17		
18	Fed	P.Own	Own	U	3	Spi	Own	S	4.45	14.8	Own	L4IH	440	TX	Ros	6 1/2 x 2 1/2 x 4	T	84	60	32	38x2	52x2	N	18		
19	Lon	P.Own	W-G	U	3	Spi	Own	S	4.7	15.1	Own	B4IM	227	...	Ros	5 1/2 x 2 1/2 x 4	C	...	...	...	36x2	54x2	N	19		
20	Fed	D.B-L	B-L	U	4	No	Spi	Tim 52000 H	SF	H 6.83	43.5	Tim 11703 H	L4IH	136	TX	Gem	5 1/2 x 2 1/2 x 4	C	98 1/2	55	34	38x2 1/2	50x2 1/2	N	20	
21	G&O	P.B&B	War T 71	U	3	No	Spi 2	Col 36500	SF	H 5.59	...	Col 3812	B4IM	190	TX	Ros	5 1/2 x 2 1/2 x 4	C	90	52 1/2	34	37x2 1/2	52x2 1/2	N	21	
22	Lon	P.B&B	B-L 20A	U	3	No	Spi	Col 36020	SF	H 5.12	21.3	Col 3221	C4IM	190	TX	Ros	5 1/2 x 2 1/2 x 4	C	96	56	34	37x2 1/2	52x2 1/2	N	22	
23	Lon	P.B-L	B-L 20	U	3	No	Blo	Col 54028	SF	H 5.1	25.5	Col 5530	L4IH	254	TX	Ros	6x2 1/2 x 4	T	103 1/2	63	34	42x2	50x2 1/2	N	23	
24	G&O	P.B&B	W-G	U	3	No	Spi 2	Cla B370	SF	H 5.6	36.1	Cla F208	L4IH	254	TX	Ros	6x2 1/2 x 4	T	103 1/2	63	34	42x2	50x2 1/2	N	24	
25	G&O	P.B&B	W-G	U	3	No	Spi 2	Cla B370	SF	H 5.6	36.1	Cla F208	L4IH	254	TX	Ros	6x2 1/2 x 4	T	103 1/2	63	34	42x2	50x2 1/2	N	25	
26	Fed	P.B&B	Cla	U	3	No	Spi	Own	S	5.6	36.1	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	26	
27	Fed	P.B&B	Cla	U	3	No	Spi	Own	S	5.6	36.1	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	27	
28	Fed	P.B&B	Cla	U	3	No	Spi	Own	S	5.1	33.4	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	28	
29	Fed	P.B&B	Cla	U	3	No	Spi	Own	S	5.1	33.4	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	29	
30	Fed	P.B&B	W-G	U	3	No	Spi	Own	S	5.6	36.1	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	30	
31	Fed	P.B&B	W-G	U	3	No	Spi	Own	S	5.6	36.1	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	31	
32	Fed	P.B&B	W-G	U	3	No	Spi	Own	S	5.6	36.1	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	32	
33	Own	P.Own	Own	U	3	No	Spi	Cla	S	5.6	36.1	Own	L4IH	206	TX	Han	6x2 1/2 x 4	C	85 1/2	50	37 1/2	39x2	48x2 1/2	N	33	
34	Lon	P.B&B	W-G T9	U	3	No	Spi 2	Cla B 370	SF	H 5.6	36.1	Cla F208	L4IH	377	TX	Gem	6x2 1/2 x 4	C	100	50 1/2	34	38x2 1/2	50x2 1/2	N	34	
35	Lon	P.B&B	W-G T9	U	3	No	Spi 2	Cla B 370	SF	H 5.6	36.1	Cla F208	L4IH	377	TX	Gem	6x2 1/2 x 4	C	100	50 1/2	34	38x2 1/2	50x2 1/2	N	35	
36	Lon	P.B-L	M.M. L U	U	3	No	Blo 3	Tim 52000 H	SF	H 5.83	29.6	Tim 11703 H	L4IH	377	TX	Ros	6x2 1/2 x 4	C	103 1/2	63	34	42x2	50x2 1/2	N	36	
37	Lon	P.B-L	B-L 20	U	3	No	Blo	Col 54028	SF	H 5.1	25.5	Col 5530	L4IH	377	TX	Ros	6x2 1/2 x 4	C	103 1/2	63	34	42x2	50x2 1/2	N	37	
38	Lon	P.Own	Own	U	3	No	M.M.	Tim 51505	S	H 4.83	16.1	Tim 11709	B4IM	308	41	Jac	6x2 1/2 x 4	C	87	48	34	38x2	50 1/2 x 2 1/2	N	38	
39	Lon	P.Own	Own	U	3	No	Spi	Tim 5261	S	H 5.83	29.6	Tim 11710	B4IM	377	TX	Jac	6x2 1/2 x 4	P	87	48	34	38x2	50 1/2 x 2 1/2	N	39	
40	Lon	D.Own	Mun	U	3	No	Spi	Tim 5261	S	H 5.83	29.6	Tim 11710	B4IM	377	TX	Jac	6x2 1/2 x 4	P	87	48	34	38x2	50 1/2 x 2 1/2	N	40	
41	G&O	D.Mun	Mun T23	U	3	No	Pic	Sal A	S	H 5.83	29.6	Tim 11710	B4IM	377	TX	Jac	6x2 1/2 x 4	P	87	48	34	38x2	50 1/2 x 2 1/2	N	41	
42	G&O	P.B&B	W-G	U	3	No	Blo	Tim 52000 H	SF	H 6.83	43.5	Tim 11703 H	L4IH	136	TX	Ros	5 1/2 x 2 1/2 x 4	C	98 1/2	55	34	38x2 1/2	50x2 1/2	N	42	
43	G&O	P.B&B	War T 71	U	3	No	Spi 2	Col 36500	SF	H 5.59	...	Col 3812	B4IM	190	TX	Ros	5 1/2 x 2 1/2 x 4	C	90	52 1/2	34	37x2 1/2	52x2 1/2	N	43	
44	Lon	P.B&B	B-L 20A	U	3	No	Spi	Col 36020	SF	H 5.12	21.3	Col 3221	C4IM	190	TX	Ros	5 1/2 x 2 1/2 x 4	C	96	56	34	37x2 1/2	52x2 1/2	N	44	
45	Lon	P.B&B	B-L 20A	U	3	No	Spi	Col 36020	SF	H 5.12	21.3	Col 3221	C4IM	190	TX	Ros	5 1/2 x 2 1/2 x 4	C	96	56	34	37x2 1/2	52x2 1/2	N	45	
46	Lon	Roc	M.M.	U	3	No	M.M.4	Eat 124	SF	H 5.4	34.6	Cla F208	L4IH	378	TX	Ros	5 1/2 x 2 1/2 x 4	C	96	58	34 1/2	40x2 1/2	52x2 1/2	N	46	
47	Per	P.B-L	B-L 214	U	3	No	Spi	Cla B370	SF	H 5.4	34.6	Cla F208	L4IH	378	TX	Ros	5 1/2 x 2 1/2 x 4	C	96	58	34 1/2	40x2 1/2	52x2 1/2	N	47	
48	McC	D.W-G	W-G T38L	U	3	No	M.M.	Tim 6258	WF	H 5.16	18.9	Tim 1452	T2IM	21	...	Ros	4 1/2 x 3 1/2 x 4	C	100	64	34	38x2 1/2	50x2 1/2	N	48	
49	Own	D.B-L	B-L 20																							







Line Number	Radiator Make	Clutch	Gearset		Universal Make and No.	Rear Axle		Front Axle		Brakes		Frame		Body Mounting Data		Springs		Auxiliary Type	Line Number						
			Type and Make	Make and Model		Location	No. of Forward Speeds		Final Drive and Type	Drive and Torque	Gear Ratios	Make and Model	Service	Area Service Brakes	Hand	Steering Gear Make	Dim. Side Rail			Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear
							Aux. Locat. and Speeds																		
1	Fed	P.B&B	Ow	U	4	No	U-P	Ow	S $\frac{1}{2}$	H 6.38 41.4	Ow	L4IH	299 TX	Ros	7 $\frac{1}{2}$ x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	132 $\frac{1}{2}$	84 $\frac{1}{2}$	34	39x2	56x3	N	1		
2	Fed	P.B&B	Ow	U	4	No	U-P	Ow	S $\frac{1}{2}$	H 5.67 36.8	Ow	L4IH	299 TX	Ros	7 $\frac{1}{2}$ x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	132 $\frac{1}{2}$	84 $\frac{1}{2}$	34	39x2	56x3	N	2		
3	Fed	P.B&B	Ow	U	4	No	U-P	Ow	S $\frac{1}{2}$	H 5.67 36.8	Ow	L4IH	299 TX	Ros	7 $\frac{1}{2}$ x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	132 $\frac{1}{2}$	84 $\frac{1}{2}$	34	39x2	56x3	N	3		
4	Mod	D.B-L	B-L 35	U	4	No	Cle	Tim 64600	W $\frac{1}{2}$	H 6.50 34.8	Shu 5410	T2IM	21	Ros	5x3x $\frac{1}{2}$	C	132 $\frac{1}{2}$	84 $\frac{1}{2}$	34	39x2	50x2 $\frac{1}{2}$	N	4		
5	Mod	D.B-L	B-L 35	U	4	No	Cle	Tim 64600	W $\frac{1}{2}$	H 6.50 34.8	Shu 5410	T2IM	21	Ros	5x3x $\frac{1}{2}$	C	132 $\frac{1}{2}$	84 $\frac{1}{2}$	34	39x2	50x2 $\frac{1}{2}$	N	5		
6	Lon	P.B&B	Ow	U	4	No	Pet	Tim 52005 H	BF	H 4.86 24.3	Tim 11704 H	L4IH	437 TI	Gem	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	95	51	34	38x2	50x2	N	6		
7	Lon	D.B-L	B-L 35	U	4	No	Blo 3	Col 5413	BF	R 5.86 23.4	Col 55005	C4IH	475 TX	Ros	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	120	79	32	42x2 $\frac{1}{2}$	54x3	N	7		
8	Per	D.Det	Cot A	U	4	No	Blo 4	Ow	BF	H 7.86 38.0	Ow	O4IM	252 2I	Ow	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	112	81	36	42x2 $\frac{1}{2}$	52x2 $\frac{1}{2}$	N	8		
9	Ow	P.Lon	Ow	U	4	No	Ow 2	Ow	U	H 6.42 42.2	Tim 14704 H	O4IM	358	Ow	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	144	90	38 $\frac{1}{2}$	42x2 $\frac{1}{2}$	36x2 $\frac{1}{2}$	N	9		
10	Lon	D.B-L	B-L 35	U	4	No	Blo	Tim 63702	W $\frac{1}{2}$	H 5.8 29.2	Col 5530	B4IM	377 TX	Jac	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	P	133 $\frac{1}{2}$	83	34	38x2	50x2 $\frac{1}{2}$	N	10		
11	Lon	P.Own	Mun	U	4	No	Spl	Tim 5261	S $\frac{1}{2}$	H 6.2 34.5	Tim 11710	B4IM	377 TX	Jac	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	P	87	48	34	38x2	50x2 $\frac{1}{2}$	N	11		
12	Lon	D.	Mun	U	4	No	Spl	Tim 5261	S $\frac{1}{2}$	H 5.83 29.6	Tim 11710	B4IM	377 TX	Jac	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	P	87	48	34	38x2	50x2 $\frac{1}{2}$	N	12		
13	Lon	D.B-L	B-L 20-4	U	4	No	Spl	Eat 1617	S $\frac{1}{2}$	H 5.63 28.6	Eat 433-F	B4IM	453 TX	Jac	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	P	107	59	34	38x2 $\frac{1}{2}$	50x3	N	13		
14	Lon	P.B&B	B-L 31	U	3	No	Spl	Tim 52000 H	BF	H 5.66 22.6	Eat 430 F	B4IM	346 2I	CAS	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	104	61	34	32x2 $\frac{1}{2}$	52x3	N	14		
15	Lon	D.B-L	B-L 20-4	U	4	No	Blo	Tim 52200H	BF	H 5.16 34.2	Col 4003	L4IH	278 TX	Ros	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	94	60 $\frac{1}{2}$	34	40x2 $\frac{1}{2}$	54x2 $\frac{1}{2}$	N	15		
16	Per	D.Own	Cov A-4J	U	4	No	Blo	Tim 52000 H	BF	H 6.38 25.5	Shu 5405	L4IH	278 TX	Ros	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	127	73 $\frac{1}{2}$	34	40x2 $\frac{1}{2}$	54x2 $\frac{1}{2}$	N	16		
17	Ow	D.Ful	Ful 8U 12	U	3	No	Blo	Tim 52000 H	BF	R 5.8 29.2	Tim 11703 H	L4IH	380 TX	Ros	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	110	66	34	41x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	17		
18	Chi	D.B-L	B-L 20	U	4	No	Blo	Tim 52000 H	BF	H 5.8 29.2	Tim 11703 H	L4IH	380 TX	Ros	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	110	66	34	41x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	18		
19	Chi	D.B-L	B-L 35	U	4	No	Blo	Tim 52000 H	BF	H 5.8 29.2	Tim 11703 H	L4IH	380 TX	Ros	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	110	66	34	41x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	19		
20	Mod	P.B&B	B-L 31	U	3	No	Spl	Col 5502	S $\frac{1}{2}$	H 5.12 20.8	Col 4000	C4IM	300 TX	Ros	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	114	68	34	37x2	52x2 $\frac{1}{2}$	N	20		
21	Lon	P.B&B	B-L 20-4	U	4	No	Spl	Col 54030	BF	H 5.85 23.5	Col 3200	C4IM	300 TX	Ros	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	C	133	88	34	37x2 $\frac{1}{2}$	52x2 $\frac{1}{2}$	N	21		
22	Lon	P.Own	Ow	U	3	No	M.M.5	Eat 1502	S $\frac{1}{2}$	H 5.66 22.6	Eat 430 F	B4IM	346 2I	CAS	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	T	104	61	34	32x2 $\frac{1}{2}$	52x3	N	22		
23	Lon	P.Own	Ow	U	3	No	M.M.5	Eat 1502	S $\frac{1}{2}$	H 5.66 22.6	Eat 430 F	B4IM	346 2I	CAS	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	T	104	61	34	32x2 $\frac{1}{2}$	52x3	N	23		
24	Lon	P.Own	Ow	U	3	No	M.M.5	Eat 1502	S $\frac{1}{2}$	H 5.66 22.6	Eat 430 F	B4IM	346 2I	CAS	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	T	104	61	34	32x2 $\frac{1}{2}$	52x3	N	24		
25	Lon	P.Own	Ow	U	3	No	M.M.5	Eat 1502	S $\frac{1}{2}$	H 5.66 22.6	Eat 430 F	B4IM	346 2I	CAS	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	T	104	61	34	32x2 $\frac{1}{2}$	52x3	N	25		
26	Lon	P.Own	Ow	U	3	No	M.M.5	Eat 1502	S $\frac{1}{2}$	H 5.66 22.6	Eat 430 F	B4IM	346 2I	CAS	6x2 $\frac{1}{2}$ x $\frac{1}{2}$	T	104	61	34	32x2 $\frac{1}{2}$	52x3	N	26		
27	Per	D.B-L	B-L 35-4	U	4	No	Spl	Tim 54000 H	BF	H 5.83 31.2	Col 4003	L4IH	453 TD	Ros	5x2 $\frac{1}{2}$ x $\frac{1}{2}$	P	126	82	34	39x2	52x3	N	27		
28	Mod	D.W-G	W-G T38L	U	3	No	Spl	Tim 54000 H	W $\frac{1}{2}$	H 7.80 28.5	Tim 1526	T2IM	21	Ros	5x3x $\frac{1}{2}$	C	126	76	34	38x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	28		
29	Ow	D.B-L	B-L 35	U	4	No	Spl	Tim 54000 H	BF	H 6.42 42.2	Tim 12703 H	L4IH	448 TX	Ros	5x3x $\frac{1}{2}$	C	126	76	34	38x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	29		
30	G&O	D.B-L	B-L	U	4	No	Spl	Tim 52000 H	BF	H 5.83 27.2	Col 4003	L4IH	448 TX	Ros	6x2x $\frac{1}{2}$	C	111	62 $\frac{1}{2}$	32	38x2	52x2 $\frac{1}{2}$	N	30		
31	Per	D.B-L	B-L	U	4	No	Spl	Col 5502	S $\frac{1}{2}$	H 5.83 27.2	Col 4003	L4IH	448 TX	Ros	6x2x $\frac{1}{2}$	C	111	62 $\frac{1}{2}$	32	38x2	52x2 $\frac{1}{2}$	N	31		
32	Per	D.B-L	B-L 20	U	4	No	Cle 3	Tim 54000 H	BF	H 5.83 29.1	Tim 14703 H	L4IH	448 TX	Ros	6x3x $\frac{1}{2}$	C	117	74	32	42x2 $\frac{1}{2}$	54x $\frac{1}{2}$	N	32		
33	Ow	D.Own	Ow AB	U	4	No	Spl	Ow DB	BF	H 4.91 23.8	Ow BB	L4IM	448 TX	Ow	6x3x $\frac{1}{2}$	C	132 $\frac{1}{2}$	79 $\frac{1}{2}$	32	42x2 $\frac{1}{2}$	54x $\frac{1}{2}$	N	33		
34	Ow	D.Own	Ow AB	U	4	No	Spl	Ow AB	BF	H 7.10 34.4	Ow AB	L4IM	448 TX	Ow	6x3x $\frac{1}{2}$	C	144	91	32	42x2 $\frac{1}{2}$	54x $\frac{1}{2}$	N	34		
35	Ow	D.Own	Ow AB	U	4	No	Spl	Ow AB	BF	H 7.10 34.4	Ow AB	L4IM	448 TX	Ow	6x3x $\frac{1}{2}$	C	144	91	32	42x2 $\frac{1}{2}$	54x $\frac{1}{2}$	N	35		
36	Lon	D.B-L	B-L 35	U	4	No	Blo	Ow 30	BF	H 6.42 42.2	Tim 14704 H	L4IH	448 TX	Ros	6x3x $\frac{1}{2}$	C	144	90	38 $\frac{1}{2}$	42x2 $\frac{1}{2}$	36x2 $\frac{1}{2}$	N	36		
37	Lon	P.B-L	B-L 20	U	4	No	Blo	Ow 20	BF	H 6.00 30.0	Col 5530	L4IH	448 TX	Ros	6x3x $\frac{1}{2}$	C	144	90	38 $\frac{1}{2}$	42x2 $\frac{1}{2}$	36x2 $\frac{1}{2}$	N	37		
38	Ow	D.B-L	Ow	U	4	No	Pet	Ow	S $\frac{1}{2}$	H 5.2 34.3	Ow	L4IH	289 TX	Han	6x3x $\frac{1}{2}$	C	97	52	40	38x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	38		
39	Ow	D.B-L	Ow	U	4	No	Pet	Ow	S $\frac{1}{2}$	H 5.2 34.3	Ow	L4IH	289 TX	Han	6x3x $\frac{1}{2}$	C	97	52	40	38x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	39		
40	Ow	D.B-L	Ow	U	4	No	Pet	Ow	S $\frac{1}{2}$	H 5.2 34.3	Ow	L4IH	289 TX	Han	6x3x $\frac{1}{2}$	C	97	52	40	38x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	40		
41	Fed	D.B-L	B-L 35	U	4	No	Pet	Ow	S $\frac{1}{2}$	H 5.2 34.3	Ow	L4IH	289 TX	Han	6x3x $\frac{1}{2}$	C	97	52	40	38x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	41		
42	You	D.B-L	B-L 35	U	4	No	Spl	Tim 54000 H	BF	H 5.83 31.2	Tim 12703 H	L4IH	452 TX	Ros	6x3x $\frac{1}{2}$	C	110	66	34	41x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	42		
43	Ow	D.B-L	B-L 20	U	4	No	Blo	Tim 54200H	BF	H 5.1 34.8	Tim 12703 H	L4IH	452 TX	Ros	6x3x $\frac{1}{2}$	C	110	66	34	41x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$	N	43		
44	Ow	D.B-L	B-L 35	U	4	No	Blo	Tim 54200H	BF	H 5.1 34.8	Tim 12703 H	L4IH	452 TX	Ros	6x3x $\frac{1}{2}$	C	110	66	34	41x2 $\frac{1}{2}$	50x2 $\frac{1}{2}$				

Line Number	Make, Model and Capacity	General			Tire Size		Engine														Fuel System		Electrical System		Line Number			
		Chassis Price	Standard W.B.	Max. W.B. Furnished	Gross Vehicle Wt. (See Key Note)	Chassis Wt. (Stripped)	Front	Rear	Make and Model	Number of Cylinders Bore and Stroke	Piston Displacement	N.A.C.C. Rated H.P.	Max. Brake H.P. at Specified R.P.M.	Valve Arrangement	Camshaft Drive	Piston Material	Dia. Main Bearings	Length Main Bearings	No. Main Bearings	Oiling System	Governor Make	Carburetor Make	Fuel Feed	Ignition System Make		Generator, Starter Make		
2 Ton—Cont'd																												
1	Int. Harv'tr. SF-46	140	164	10841	3955	P 32x6	P 34x7	Lyc 48L	6-3 1/4 x 4 1/4	224	25.3	61-2800	L	G	C	C	2 1/2	8 1/4	4	PC	No	Zen	M	D-R	D-R	1		
2	Kenworth	125	2550	157	183	12500	5200	P 32x6	DP32x6	Her WXB	6-3 1/4 x 4 1/4	298	33.7	67-2400	L	G	C	C	2 1/2	13 1/4	4	PC	No	Zen	M	D-R	D-R	2
3	Kiebler	2450	170	156	9300	5800	P 32x6	DP32x6	Con 16C	6-3 1/4 x 4 1/4	248	27.3	66-3200	L	G	C	C	2 1/2	13 1/4	7	PC	No	Zen	M	D-R	D-R	3	
4	LaFra-Republic D-1	144	165	9000	3750	P 30x5	DP30x5	Lyc 48L	6-3 1/4 x 4 1/4	224	25.3	61-2750	L	G	C	C	2 1/2	8 1/4	4	PC	No	Zen	M	D-R	D-R	4		
5	LaFra-Republic F-1	155	155	4650	P 32x6	DP32x6	Lyc 48L	6-3 1/4 x 4 1/4	224	25.3	61-2750	L	G	C	C	2 1/2	8 1/4	4	PC	No	Zen	M	D-R	D-R	5			
6	LaFra-Republic 88-6	115	115	3350	P 30x5	DP30x5	Lyc 48L	6-3 1/4 x 4 1/4	224	25.3	61-2750	L	G	C	C	2 1/2	8 1/4	4	PC	No	Zen	M	D-R	D-R	6			
7	LaFra-Republic 50	154	154	4100	P 30x5	DP30x5	Lyc 48L	6-3 1/4 x 4 1/4	224	25.3	61-2750	L	G	C	C	2 1/2	8 1/4	4	PC	No	Zen	M	D-R	D-R	7			
8	LaFra-Republic F-2	174	198	5370	P 32x6	DP32x6	Lyc	6-3 1/4 x 4 1/4	309	31.7	80-2500	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	8			
9	Maccar	40	126	182	10350	4850	P 32x6	DP32x6	Bud	6-3 1/4 x 4 1/4	241	27.3	57-2100	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	9	
10	Mack	AB 3100	146	164	5500	S 36x4	DS36x4	Own AB	4-4 1/4 x 5	28.9	28.9	46-2000	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	10		
11	Mack	AB 3500	164	164	6050	S 36x4	DS36x4	Own AB	4-4 1/4 x 5	28.9	28.9	46-2000	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	11		
12	Moreland	RR-7 2025	158	9300	4000	P 32x6	P 32x6	Con 16C	6-3 1/4 x 4 1/4	248	27.3	70-1300	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	12		
13	Omort	200	124	148	11500	4800	P 32x6	DP32x6	Her OX	4-4 1/4 x 5	251.3	25.6	46-2000	L	G	C	C	2 1/2	9 1/4	3	PC	No	Zen	M	D-R	D-R	13	
14	Pierce-Arrow	XA 3500	150	162	5280	S 36x4	DS36x4	Own XA	4-4 1/4 x 5	25.6	25.6	46-2000	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	14		
15	Pierce-Arrow	FA 2450	140	180	3855	P 32x6	S 34x7	Own FA	6-3 1/4 x 4 1/4	241	26	67-2100	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	15		
16	Relay	40	3240	168	185	5500	P 36x6	DP36x6	Bud DS6	6-3 1/4 x 5	309	31.5	56-2000	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	16	
17	Relay	S11 2030	162	162	4700	P 32x6	DP32x6	Bud HS6	6-3 1/4 x 4 1/4	241	27	52-2200	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	17		
18	Relay	50	3860	161	161	6800	P 36x6	DP36x6	Bud DW6	6-3 1/4 x 5	331	33.7	73-2200	L	G	C	C	2 1/2	10 1/4	4	PC	No	Zen	M	D-R	D-R	18	
19	Reo	FC 1645	152	9400	4025	P 32x6	DP32x6	Own	6-3 1/4 x 5	268	32.7	67-2800	L	G	C	C	2 1/2	12 1/4	7	PC	No	Sch	V	D-R	D-R	19		
20	Reo	FD 1745	168	9400	4075	P 32x6	DP32x6	Own	6-3 1/4 x 5	268	32.7	67-2800	L	G	C	C	2 1/2	12 1/4	7	PC	No	Sch	V	D-R	D-R	20		
21	Reo	FC 1645	152	9400	4025	P 32x6	DP32x6	Own	6-3 1/4 x 5	268	32.7	67-2800	L	G	C	C	2 1/2	12 1/4	7	PC	No	Sch	V	D-R	D-R	21		
22	Sanford	N	160	160	4500	P 30x5	DP30x5	Con 16C	6-3 1/4 x 4 1/4	248	27.3	66-2900	L	G	C	C	2 1/2	10 1/4	7	PC	No	Str	V	D-R	D-R	22		
23	Schacht De Luxe	20	160	174	9500	4500	B 7.50/20	DB 7.50/20	Con 16C	6-3 1/4 x 4 1/4	248	27.3	65-2600	L	G	C	C	2 1/2	10 1/4	7	PC	No	Str	V	D-R	D-R	23	
24	Selden	Unit 37	151	181	10000	4700	P 32x6	DP32x6	Con 16C	6-3 1/4 x 4 1/4	241	27.3	65-2760	L	G	C	C	2 1/2	10 1/4	7	PC	No	Str	V	D-R	D-R	24	
25	Service	40	3240	168	185	5500	P 36x6	DP36x6	Bud DS6	6-3 1/4 x 5	309	31.5	56-2000	L	G	C	C	2 1/2	10 1/4	4	PC	No	Str	V	D-R	D-R	25	
26	Service	S11 2030	162	162	4700	P 32x6	DP32x6	Bud HS6	6-3 1/4 x 4 1/4	241	27	52-2200	L	G	C	C	2 1/2	10 1/4	4	PC	No	Str	V	D-R	D-R	26		
27	Standard K 2 1/2-3 1/4 T	147	170	12941	5488	P 34x7	S 36x5	Con K4	4-4 1/4 x 5	280	27.2	115-3200	L	G	C	C	2 1/2	9 1/4	5	PC	No	Str	V	D-R	D-R	27		
28	Stewart	18X 2690	165	220	12941	5806	P 32x6	DP32x6	Lyc TF	6-3 1/4 x 5	310	31.5	85-2750	L	G	C	C	2 1/2	10 1/4	4	PC	No	Str	V	D-R	D-R	28	
29	Stewart	32X 1900	165	220	12941	5806	P 32x6	DP32x6	Lyc TF	6-3 1/4 x 5	310	31.5	85-2750	L	G	C	C	2 1/2	10 1/4	4	PC	No	Str	V	D-R	D-R	29	
30	Studebaker	77 2895	158	12500	4750	R 7.00/20	DB 7.00/20	Own	8-3 1/4 x 4 1/4	337	39.2	115-3200	L	G	C	C	2 1/2	9 1/4	5	PC	No	Str	V	D-R	D-R	30		
31	Studebaker	88 2895	184	12500	4920	R 7.50/20	DB 7.50/20	Own	8-3 1/4 x 4 1/4	337	39.2	115-3200	L	G	C	C	2 1/2	9 1/4	5	PC	No	Str	V	D-R	D-R	31		
32	White LaFrance	25R	Op	Op	6250	S 36x5	S 36x5	Own GRC	4-4 1/4 x 5	326	32.9	56-1800	L	G	C	C	2 1/2	11 1/4	3	PC	On	Zen	V	A-Bo	A-L	32		
33	White	51A 3750	170	190	17000	6250	S 36x5	S 36x5	Own GRC	4-4 1/4 x 5	326	32.9	56-1800	L	G	C	C	2 1/2	11 1/4	3	PC	On	Zen	V	A-Bo	A-L	33	
3 Ton																												
110	Amer. La France W2R	3950	Op	202	16000	6600	S 36x5	S 36x10	Own 2R	4-4 1/4 x 5	340	5.28	42-1400	L	G	C	C	2 1/2	9 1/4	3	PS	On	Zen	V	A-Bo	A-L	110	
111	Amer. La France W2R	128	Op	16200	7200	P 36x8	DP36x8	Own	6-4 1/4 x 5	411	40.8	75-1800	L	G	C	C	2 1/2	9 1/4	4	PC	On	Zen	V	D-R	D-R	111		
112	Amer. La France W2R	128	Op	16200	7200	P 36x8	DP36x8	Own	6-4 1/4 x 5	411	40.8	75-1800	L	G	C	C	2 1/2	9 1/4	4	PC	On	Zen	V	D-R	D-R	112		
113	Armleder	31 2600	Op	199	12850	5350	P 32x6	DP32x6	Her WXB	6-3 1/4 x 4 1/4	298	33.7	66-2200	L	G	C	C	2 1/2	10 1/4	4	PC	On	Zen	V	D-R	D-R	113	
114	Atterbury	22C 3675	156	180	14000	5925	S 36x4	S 36x5	Con K4	4-4 1/4 x 5	281	27.2		L	G	C	C	2 1/2	9 1/4	3	PC	On	Zen	V	A-Bo	A-L	114	







Line Number	Make, Model and Capacity	General			Tire Size		Engine												Fuel System	Electrical System		Line Number					
		Chassis Price	Standard W.B.	Max. W.B. Furnished	Gross Vehicle Wt. (See Key Note)	Chassis Wt. (Stripped)	Front	Rear	Make and Model	Number of Cylinders Bore and Stroke	Piston Displacement	N.A.C.C. Rated H.P.	Max. Brake H.P. at Specified R.P.M.	Valve Arrangement	Camshaft Drive	Piston Material	Dia. Main Bearings	Length Main Bearings	No. Main Bearings	Oiling System	Governor Make		Carburetor Make	Fuel Feed	Ignition System Make	Generator, Starter Make	
3 Ton—Cont'd.																											
1	Atterbury	R 3700	173	199	16040	7250 P 34x7	DP34x7	Con 18R	6-4 1/2 x 5 1/2	340.0	38.4	82-2400	H	G	B	2 1/2	12 1/2	7	PC	Ha	Zen	V	D-R	A-L	1		
2	Autocar	H 3750	114	203		5800 S 32x5	S 36x10	Own	4-4 1/2 x 5 1/2	350.0	32.2	45-1450	L	G	B	2 1/2	14 1/2	7	SP	Ha	Zen	V	A-Bo	A-L	2		
3	Autocar	SH 4000	114	203		5800 S 32x5	S 36x10	Own	4-4 1/2 x 5 1/2	404.0	43.4	90-2000	L	G	B	2 1/2	14 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	3		
4	Autocar	TA 5000	187	213		7100 P 36x8	DP36x8	Own	4-4 1/2 x 5 1/2	404.0	43.4	90-2000	L	G	B	2 1/2	14 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	4		
5	Autocar	TB 5100	213	213		7300 P 36x8	DP36x8	Own	4-4 1/2 x 5 1/2	404.0	43.3	90-2000	L	G	B	2 1/2	14 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	5		
6	Brockway	K	154	189	15000	5855 S 36x5	S36x10	Con K4	4-4 1/2 x 5 1/2	281.0	27.2	36	L	G	B	2 1/2	14 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	6		
7	Brockway	KR	160	196	15000	6290 S 36x5	S 36x10	Con L4	4-4 1/2 x 5 1/2	350.0	32.2	42	L	G	B	2 1/2	14 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	7		
8	Brockway	KW	170	220	18000	6920 P 34x7	DP34x7	Wls H	6-4 1/2 x 5 1/2	377.0	38.4	72-2000	H	G	B	2 1/2	14 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	8		
9	Brockway	190	168	204	19000	7625 P 34x7	DP34x7	Con 33B	6-4 1/2 x 5 1/2	380.0	40.8	88-2400	H	G	B	2 1/2	12 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	9		
10	Brockway	195	170	224	19500	7500 P 34x7	DP34x7	Con 33B	6-4 1/2 x 5 1/2	380.0	40.8	88-2400	H	G	B	2 1/2	12 1/2	7	FP	Ha	Zen	V	A-Bo	A-L	10		
11	Chicago	31D	159	231		6970 S 36x5	S 36x10	Wau CU	4-4 1/2 x 5 1/2	346.0	30.6		L	G	B	2 1/2			FP	Wa	Zen	V	A-Bo	A-L	11		
12	Chicago	32B	164	236		7240 P 36x8	DP36x8	Wau KU	4-4 1/2 x 5 1/2	404.0	43.3	78-2000	L	G	B	2 1/2			FP	Wa	Zen	V	A-Bo	A-L	12		
13	Clinton	65	184	Op	14500	5925 S 34x5	DS34x5	Bud ETU	4-4 1/2 x 5 1/2	312.0	28.9	49-1900	L	G	B	2 1/2	10 1/2	3	PC	Bu	Zen	V	A-Bo	A-L	13		
14	Clinton	65-6	184	Op	14500	5925 S 34x5	DS34x5	Bud DW 6	4-4 1/2 x 5 1/2	312.0	28.9	49-1900	L	G	B	2 1/2	10 1/2	3	PC	Bu	Zen	V	A-Bo	A-L	14		
15	Coleman	D40	130	180	16600	8500 P 40x8	P 40x8	Bud DW 6	6-3 1/2 x 5	330.0	33.7	72-2000	L	G	B	2 1/2	9	4	PC	No	Zen	V	A-Bo	A-L	15		
16	Concord	JX-6	4200	154	174	17200	6700 P 34x7	DP34x7	Bud DW 6	6-3 1/2 x 5	330.0	33.7	73-2100	L	G	B	2 1/2	9	4	PC	No	Zen	V	A-Bo	A-L	16	
17	Corbitt	15B6	174	220		5870 P 34x7	DP34x7	Con 16R	6-4 1/2 x 5 1/2	311.0	38.4	72-2400	H	G	B	2 1/2			FP	No	Zen	V	A-Bo	A-L	17		
18	Corbitt	15W6	183	224		6160 P 34x7	DP34x7	Con 16R	6-4 1/2 x 5 1/2	311.0	38.4	72-2400	H	G	B	2 1/2			FP	No	Zen	V	A-Bo	A-L	18		
19	Corbitt	18W6	178	230		6530 P 34x7	DP34x7	Con 18R	6-4 1/2 x 5 1/2	340.0	38.4	82-2400	H	G	B	2 1/2			FP	No	Zen	V	A-Bo	A-L	19		
20	Day-Elder	JP 3900	156	204	14900	8900 P 34x7	DP34x7	Con 18R	6-4 1/2 x 5 1/2	340.0	38.4	82-2400	H	G	B	2 1/2			FP	No	Zen	V	A-Bo	A-L	20		
21	Diamond T	602	3440	169	231	19000	7500 P 36x8	DP36x8	Her YXC	6-4 1/2 x 5 1/2	428.4	45.9	94-2200	L	G	B	2 1/2	15	7	PC	Ha	Zen	V	A-Bo	A-L	21	
22	Diamond T	606	3500	176	242	19000	7500 P 36x8	DP36x8	Her YXC	6-4 1/2 x 5 1/2	428.4	45.9	94-2200	L	G	B	2 1/2	15	7	PC	Ha	Zen	V	A-Bo	A-L	22	
23	Dodge Bros.	1845	135	135	12250	4235 P 32x6	DP32x6	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	23		
24	Dodge Bros.	1875	135	135	12250	4155 P 34x7	P 36x8	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	24		
25	Dodge Bros.	1960	135	135	12250	4355 P 34x7	DP34x7	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	25		
26	Dodge Bros.	1895	165	165	12220	4520 P 32x6	DP32x6	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	26		
27	Dodge Bros.	1925	165	165	12220	4440 P 34x7	P 36x8	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	27		
28	Dodge Bros.	2010	165	165	12220	4640 P 34x7	DP34x7	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	28		
29	Dodge Bros.	1945	185	185	12715	4715 P 32x6	DP32x6	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	29		
30	Dodge Bros.	1975	185	185	12715	4635 P 34x7	P 36x8	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	30		
31	Dodge Bros.	2060	185	185	12715	4835 P 34x7	DP34x7	Own	6-3 1/2 x 5	241.0	27.7	78-3000	L	G	B	2 1/2	11	7	PC	KP	Zen	V	A-Bo	A-L	31		
32	Duplex	FAC	4250	166	16000	7200 S 34x5	S 36x8	Bud EBU-I	4-4 1/2 x 5 1/2	312.0	28.9	57-2100	L	G	B	2 1/2	10 1/2	3	PC	No	Zen	V	A-Bo	A-L	32		
33	Duplex	SAC	4750	166	16000	7400 S 34x5	S 36x8	Bud BA 6	4-4 1/2 x 5 1/2	411.0	40.8	78-2250	L	G	B	2 1/2	9 1/2	4	PC	No	Zen	V	A-Bo	A-L	33		
34	Fagol	340	4750	182	200	18500	7820 P 36x6	DP36x6	Wau KS	4-4 1/2 x 5 1/2	346.0	33.7	48-1700	L	G	B	2 1/2	9 1/2	4	PC	No	Zen	V	A-Bo	A-L	34	
35	Fagol	365	4200	182	200	15500	7250 P 36x6	DP36x6	Wau KS	4-4 1/2 x 5 1/2	404.0	38.4	87-2500	L	G	B	2 1/2	13 1/2	7	PC	Wa	Zen	V	A-Bo	A-L	35	
36	Fagol	370	5200	182	200	18500	7820 P 36x6	DP36x6	Wau SRL	4-4 1/2 x 5 1/2	462.0	43.4	89-2200	L	G	B	2 1/2	13 1/2	7	PC	Wa	Zen	V	A-Bo	A-L	36	
37	Federal	UG-3-3 1/2	3860	165	201	19000	7210 P 34x7	DP34x7	Con 18R	6-4 1/2 x 5 1/2	339.0	38.4	85-2200	L	G	B	2 1/2	13 1/2	7	PC	KP	Str	V	A-Bo	A-L	37	
38	Freeman	DW144	4900	144		7560 P 34x7	DP34x7	Bud DW 6	6-3 1/2 x 5	330.0	33.7	73-2400	L	G	B	2 1/2	9	4	PC	Bu	Str	V	A-Bo	A-L	38		
39	Freeman	DW186	3-3 1/2	5100	186	7800 P 34x7	DP34x7	Bud DW 6	6-3 1/2 x 5	330.0	33.7	73-2400	L	G	B	2 1/2	9	4	PC	Bu	Str	V	A-Bo	A-L	39		
40	F. W. D.	8	4200	124	156	13960	6460 S 36x6	S 36x6	Own A	4-4 1/2 x 5 1/2	398.0	36.1	56-1350	T	G	B	2 1/2	12	3	PC	Pe	Str	V	A-Bo	A-L	40	
41	Garford	60	4680	175	192		7100 P 36x6	DP36x6	Bud BUS	6-4 1/2 x 5 1/2	386.0	38.4	73-2000	L	G	B	2 1/2			FP	Bu	Str	V	A-Bo	A-L	41	
42	Gen. Mot.	4203	3-3 1/2	1960	141	181	4905 P 36x6	DP36x6	Bulek	6-3 1/2 x 5	257.5	28.3	76-2500	L	G	B	2 1/2	8 1/2	4	PC	Ha	Mar	M	D-R	D-R	42	
43	Gen. Mot.	4403	3-3 1/2	2080	141	181	5005 P 36x6	DP36x6	Bulek	6-3 1/2 x 5	257.5	28.3	76-2500	L	G	B	2 1/2	8 1/2	4	PC	Ha	Mar	M	D-R	D-R	43	
44	Gen. Mot.	8208	3790	155	201	15500	7010 B 9.75/20	B 10.50/24	Bulek	6-3 1/2 x 5	331.0	33.7	94-2500	L	G	B	2 1/2	8 1/2	4	PC	Ha	Mar	M	D-R	D-R	44	
45	Gotfredson	RW54	163	194		5700 S 36x4	S 36x8	S 36x8	Bud KBU-I	4-4 1/2 x 5 1/2	263.0	28.9	43-1800	L	G	B	2 1/2	13 1/2	7</								

Line Number	Radiator Make	Clutch	Gear Set		Universal Make and No.	Rear Axle		Front Axle		Brakes		Frame		Body Mounting Data		Springs		Auxiliary Type	Line Number																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
			Type and Make	Make and Model		Final Drive and Type	Gear Ratios	Make and Model	Service	Area Service Brakes	Hand	Steering Gear Make	Dim. Side Rail	Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame			Front	Rear																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
																						Location	No. of Forward Speeds	Aux. Locat. and Speeds	Drive and Torque	Reduc. in High	Reduc. in Low	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt



Line Number	Make, Model and Capacity	Chassis Price	General		Tire Size		Engine										Fuel System		Electrical System		Line Number						
			Standard W.B.	Max. W.B. Furnished	Gross Vehicle Wt. (See Key Note)	Chassis Wt. (Stripped)	Front	Rear	Make and Model	Number of Cylinders Bore and Stroke	Piston Displacement	N.A.C.C. Rated H.P.	Max. Brake H.P. at Specified R.P.M.	Valve Arrangement	Camshaft Drive	Piston Material	Dia. Main Bearings	Length Main Bearings	No. Main Bearings	Oiling System		Governor Make	Carburetor Make	Fuel Feed	Ignition System	Generator, Starter Make	
3 1/2 Ton—Cont'd																											
1	Coleman-D-40X 3 1/2-56	5250	130	184	21100	9700	P 40x8	P 40x8	Bud BA6	6-4 1/2 x 5 1/2	411.0	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	Bu	Zen	V	D-R	D-R	1	
2	Commerce.....	5250	130	184	21100	9700	P 40x8	P 40x8	Bud BA6	6-4 1/2 x 5 1/2	411.0	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	Bu	Zen	V	D-R	D-R	2	
3	Concord.....	4500	202	222	19400	7000	P 34x7	DP34x7	Bud BA6	6-4 1/2 x 5 1/2	411.0	40.8	85-2000	L	G	C	2 1/2	9 1/2	4	FP	Bu	Zen	V	D-R	D-R	3	
4	Corbitt.....	1586	174	220	222	5870	P 34x7	DP34x7	Con 16R	6-4 1/2 x 5 1/2	311.0	38.4	72-2400	H	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	4	
5	Corbitt.....	1586	174	220	222	5870	P 34x7	DP34x7	Con 16R	6-4 1/2 x 5 1/2	311.0	38.4	72-2400	H	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	5	
6	Corbitt.....	1586	174	220	222	5870	P 34x7	DP34x7	Con 16R	6-4 1/2 x 5 1/2	311.0	38.4	72-2400	H	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	6	
7	Diamond T.....	700	172	202	24000	8200	S 36x5	S 36x10	Her YXC	6-4 1/2 x 5 1/2	428.4	45.9	94-2200	L	G	C	3	15	7	FP	Ha	Zen	V	D-R	D-R	7	
8	Duplex.....	EF	130	17000	6500	S 36x8	S 36x8	Bud EBU-I	4-4 1/2 x 5 1/2	312.0	28.9	57-2100	L	G	C	2 1/2	10 1/2	3	PS	No	Zen	V	D-R	D-R	8		
9	Fisher.....	Super Six	156	190	4900	P 34x7	DP34x7	Con 18R	6-4 1/2 x 5 1/2	339.3	38.4	82-2400	H	G	C	2 1/2	9 1/2	4	FP	Co	Zen	V	D-R	D-R	9		
10	Fisher.....	Super Six	156	190	4900	P 34x7	DP34x7	Con 21R	6-4 1/2 x 5 1/2	427.5	45.9	112-2400	H	G	C	2 1/2	9 1/2	4	FP	Co	Zen	V	D-R	D-R	10		
11	Freeman BASP 3 1/2-4T	5500	144	144	16720	7700	P 38x9	DP38x9	Bud BA6	6-4 1/2 x 5 1/2	411.0	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	Bu	Zen	V	D-R	D-R	11	
12	F.W.D. CU-6	5120	148	180	16720	7200	P 38x9	P 38x9	Wau	6-4 1/2 x 5 1/2	358.0	38.4	76-2500	L	G	C	2 1/2	13 1/2	9	4	FP	No	Zen	V	D-R	D-R	12
13	Garford.....	80	150	192	15000	8200	S 36x5	S 36x12	Bud BA6	6-4 1/2 x 5 1/2	411.0	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	Bu	Zen	V	D-R	D-R	13	
14	General Motors.....	6202	154	200	16500	6625	P 34x7	DP34x7	Buick	6-3 1/2 x 5 1/2	331.4	43.7	94-2400	L	G	C	2 1/2	8 1/2	4	PC	Ha	Mar	M	D-R	D-R	14	
15	Gen. Mot. 8201 3 1/2-4T	3795	155	201	18000	7210	P 38x7	DP38x7	Buick	6-3 1/2 x 5 1/2	331.4	43.7	94-2500	L	G	C	2 1/2	8 1/2	4	PC	Ha	Mar	M	D-R	D-R	15	
16	Gottfredson.....	RW64A	160	180	18000	9000	S 36x5	S 36x10	Bud EBU-I	4-4 1/2 x 5 1/2	312.0	32.4	48-1850	L	G	C	2 1/2	9 1/2	4	FP	Pe	Zen	M	D-R	D-R	16	
17	Gottfredson.....	RW64A	160	180	18000	9000	S 36x5	S 36x10	Bud EBU-I	4-4 1/2 x 5 1/2	312.0	32.4	48-1850	L	G	C	2 1/2	9 1/2	4	FP	Pe	Zen	M	D-R	D-R	17	
18	Graham-Bernstein.....	30	150	168	15500	6500	P 34x7	DP34x7	Con LA	4-4 1/2 x 5 1/2	349.9	32.4	82-2400	L	G	C	2 1/2	9 1/2	4	FP	Pe	Str	G	Elas	A-L	18	
19	Hahn.....	47HBL	164	184	15500	7400	P 34x7	DP34x7	Con 18R	6-4 1/2 x 5 1/2	339.3	38.4	82-2400	H	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	19	
20	Hug.....	87	120	190	19030	6550	P 38x7	DP38x7	Bud DW6	6-3 1/2 x 5 1/2	330.0	33.7	70-2100	L	G	C	2 1/2	9 1/2	4	FP	Bu	Zen	V	D-R	D-R	20	
21	Hug.....	87M	120	190	19030	6550	P 38x7	DP38x7	Bud DW6	6-3 1/2 x 5 1/2	330.0	33.7	70-2100	L	G	C	2 1/2	9 1/2	4	FP	Bu	Zen	V	D-R	D-R	21	
22	Indiana.....	636	169	205	18000	7400	S 36x5	S 36x12	Her L	6-4 1/2 x 5 1/2	365.8	38.4	58-1600	L	G	C	2 1/2	10 1/2	3	PC	Pe	Str	V	D-R	D-R	22	
23	Indiana.....	636	169	205	18000	7625	S 36x5	S 36x12	Wia H	6-4 1/2 x 5 1/2	377.0	38.4	72-2000	H	G	C	2 1/2	10 1/2	4	FP	KS	Str	V	D-R	D-R	23	
24	Int. Harv'tr.....	HS-74	160	235	27000	9690	S 36x5	S 40x12	Has 152	4-4 1/2 x 5 1/2	390.0	36.1	60-1800	H	G	C	3	8 1/2	3	PC	HS	Zen	G	V	D-R	D-R	24
25	Int. Harv'tr.....	HS-74C	160	235	27000	10290	S 36x5	S 40x12	Has 152	4-4 1/2 x 5 1/2	390.0	36.1	60-1800	H	G	C	3	8 1/2	3	PC	HS	Zen	G	V	D-R	D-R	25
26	Kenworth.....	205	172	223	20500	7700	P 38x7	DP38x7	Bud GL6	6-4 1/2 x 5 1/2	572.5	48.6	114-1900	L	G	C	3	10 1/2	4	PC	Bu	Zen	V	D-R	D-R	26	
27	Kleiber.....	4800	170	196	14000	7600	S 36x5	S 36x12	Con B5	4-4 1/2 x 5 1/2	425.3	38.0	83-2000	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	27	
28	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	28	
29	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	29	
30	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	30	
31	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	31	
32	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	32	
33	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	33	
34	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	34	
35	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	35	
36	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	36	
37	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	37	
38	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	38	
39	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	39	
40	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	40	
41	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	41	
42	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	42	
43	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-2750	L	G	C	2 1/2	9 1/2	4	FP	No	Zen	V	D-R	D-R	43	
44	La France-Republic.....	M-1	180	180	18000	6900	P 38x7	DP38x7	Lye TS	6-3 1/2 x 5 1/2	353.0	36.2	90-275														



Line Number	Radiators Make	Clutch	Gear Set		Universal Make and No.	Rear Axle			Front Axle			Brakes		Frame		Body Mounting Data		Springs		Auxiliary Type	Line Number	
			Make and Model	Location		Make and Model	Final Drive and Type	Gear Ratios	Make and Model	Service	Area Service Brakes	Hand	Steering Gear Make	Dim. Side Rail	Type	Cap to Rear of Frame	Cap to Rear Axle	Width of Frame	Front	Rear		
1	R-T	D.Ful	Ful R U16	U	8 A 2	Spl	Wls	2F	H 8.33 159	Wls	W2/4IM	TD	Ros	12x2 1/2 x 1 1/2	C	144	89	30	48x3	48x3	C	1
2	Lon	P.B&B	B-L 51	A	7 No	Blo	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	2
3	Own	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	3
4	Per	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	4
5	Per	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	5
6	Per	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	6
7	G&O	D.Cov	B-L 51	A	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	7
8	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	8
9	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	9
10	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	10
11	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	11
12	Per	O.H.S	B-L 51	A	7 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	12
13	Lon	P.B&B	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	13
14	Lon	D	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	14
15	Lon	D	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	15
16	McC	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	16
17	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	17
18	Own	D.Ful	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	18
19	Chi	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	19
20	You	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	20
21	You	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	21
22	McC	P.B&B	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	22
23	McC	P.B&B	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	23
24	Own	P.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	24
25	Own	P.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	25
26	Per	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	26
27	R-T	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	27
28	Own	D.Ful	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	28
29	Own	D.Ful	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	29
30	Own	D.Ful	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	30
31	Own	P.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	31
32	Own	P.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	32
33	Own	P.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	33
34	Lon	P.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	34
35	G&O	D.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	35
36	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	36
37	Lon	P.B&B	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	37
38	Lon	P.B&B	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	38
39	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	39
40	Lon	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	40
41	Hex	D.Ful	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	41
42	Mod	D.Ful	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	42
43	Lon	D.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	43
44	Own	Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	44
45	Own	P.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	45
46	Own	P.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	46
47	Own	P.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	47
48	Own	D.Ful	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	48
49	You	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	49
50	Fed	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	50
51	Bus	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	51
52	Bus	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	52
53	G&O	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	53
54	Chi	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	54
55	Own	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	55
56	Own	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	56
57	Lon	D.Own	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	57
58	Per	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	58
59	Per	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	59
60	Bus	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	60
61	G&O	D.Cov	B-L 51	U	4 No	Spl	Tim 66700DP	WF	R 10.3 98.2	Tim 16302	T2IMV	520 TD	Ros	7x3 x 1/2	C	144	89	30	48x3	48x3	C	61
62	Per	D.B-L	B-L 51	U	4 No	Spl	Tim 66700DP	WF														

Line Number	Make, Model and Capacity	General		Tire Size		Engine														Fuel System	Electrical System	Line Number				
		Chassis Price	Standard W.B.	Gross Vehicle Wt. (See Key Note)	Chassis Wt. (Stripped)	Front	Rear	Make and Model	Number of Cylinders Bore and Stroke	Piston Displacement	N.A.C.C. Rated H.P.	Max. Brake H.P. at Specified R.P.M.	Valve Arrangement	Camshaft Drive	Piston Material	Dia. Main Bearings	Length Main Bearings	No. Main Bearings	Oiling System	Governor	Carburetor Make		Fuel Feed	Ignition System Make	Generator, Starter Make	
5 Ton—Cont'd																										
1	Coleman X-100 5-6 T.	144	184	24300	11200	P 42x9	P 42x9	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	On	Zen	V	D-R	D-R	1	
2	Coleman X-100F 5-7 1/2	144	184	24300	11300	P 42x9	P 42x9	Bud GL	6-4 1/2 x 5 1/2	411	40.8	120-2000	L	G	C	3	10 1/2	4	FP	On	Zen	V	D-R	D-R	2	
3	Commerce 100	5830	175	192	9600	S 36x6	S 40x14	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	On	Zen	V	D-R	D-R	3	
4	Corbitt 24W6	195	230	33200	9650	S 36x6	DS40x6	Con 21R	6-4 1/2 x 4 1/2	428	44.5	90-2600	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	4	
5	Corbitt 24W6	195	230	33200	9200	P 36x8	DP36x8	Con 20R	6-4 1/2 x 4 1/2	481	40.8	88-2200	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	5	
6	Diamond T	1000	4420	171	201	28000	9700	S 36x6	S 40x12	Her YXC2	453	48.6	100-2200	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	6
7	Duplex M 5-7 Ton	7650	Op	28000	10000	P 34x7	DS36x7	Bud GL6	6-4 1/2 x 5 1/2	411	40.8	105-2200	L	G	C	3	10 1/2	4	FP	On	Zen	V	D-R	D-R	7	
8	Freeman BA-156	5900	156	186	8490	P 36x8	DP36x8	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	On	Zen	V	D-R	D-R	8	
9	Freeman BA-156	6000	186	186	8550	P 36x8	DP36x8	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	On	Zen	V	D-R	D-R	9	
10	F.W.D. MF6	5000	148	20775	7775	S 36x8	S 36x10	Wau	6-4 1/2 x 4 1/2	404	43.3	87-2500	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	10	
11	Garford 100	5830	175	192	9600	S 36x6	S 40x14	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	85-2400	L	G	C	2 1/2	9 1/2	4	FP	On	Zen	V	D-R	D-R	11	
12	General Motors 8203	3935	155	201	20000	7350	P 36x8	DP36x8	Bulek	6-3 1/2 x 5 1/2	331	43.3	94-2500	I	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	12
13	General Motors 8204	3945	155	201	21500	7365	P 38x7	DP40x8	Bulek	6-3 1/2 x 5 1/2	331	43.3	94-2500	I	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	13
14	General Motors 9006	5985	185	22000	9185	B 9 7/8 x 20	B 9 7/8 x 20	Bulek	6-3 1/2 x 5 1/2	331	43.3	94-2500	I	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	14	
15	Gottfredson RW-86A	Op	22600	22600	9600	P 38x9	DP38x9	Her YXC3	6-4 1/2 x 5 1/2	478	85.1	105-2200	L	G	C	3	15	7	FP	On	Zen	V	D-R	D-R	15	
16	Gramm HY-236	6545	236	236	22600	9600	P 36x8	DP36x8	Con 16H	6-3 1/2 x 5 1/2	611	35.4	127-2300	L	G	A	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	16
17	Gramm 60	4745	153	200	8700	S 36x6	S 36x14	Her G	4-4 1/2 x 5 1/2	361	36.1	85-2200	L	G	A	3	10	4	FP	On	Zen	V	D-R	D-R	17	
18	Gramm 60	4745	153	200	8700	S 36x6	S 36x14	Lye TS	6-3 1/2 x 5 1/2	353	32.6	85-2200	L	G	A	3	10	4	FP	On	Zen	V	D-R	D-R	18	
19	Gramm-Bernstein 40	168	188	20700	8360	P 36x8	DS36x5	Con 1A	4-4 1/2 x 5 1/2	400	40.0	85-2200	L	G	A	3	10	4	FP	On	Zen	V	D-R	D-R	19	
20	Gramm-Bernstein 50	168	188	20700	8360	P 36x8	DS40x6	Con B7	4-4 1/2 x 5 1/2	400	40.0	85-2200	L	G	A	3	10	4	FP	On	Zen	V	D-R	D-R	20	
21	Hahn 67H	151	23500	8900	P 36x8	DP36x8	Con 21R	6-4 1/2 x 4 1/2	427	45.9	100-2400	H	C	N	2 1/2	9 1/2	7	FP	On	Zen	V	D-R	D-R	21		
22	Hahn 67H	151	23500	8900	P 36x8	DP36x8	Con 21R	6-4 1/2 x 4 1/2	427	45.9	100-2400	H	C	N	2 1/2	9 1/2	7	FP	On	Zen	V	D-R	D-R	22		
23	Hug 97	135	31765	9200	P 38x9	DP38x9	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	83-2100	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	23		
24	Hug C97-6 Whl.	Op	210	210	34000	11900	P 36x8	DP40x8	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	83-2100	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	24
25	Indiana 250	196	28000	9600	S 36x6	S 40x12	Her G	4-4 1/2 x 5 1/2	407	40.7	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	25		
26	Indiana 250	196	28000	9600	S 36x6	S 40x12	Her G	4-4 1/2 x 5 1/2	407	40.7	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	26		
27	Int. Harv'r HS-104C	160	235	29895	10595	S 36x6	S 40x14	Has 152	4-4 1/2 x 5 1/2	390	36.1	60-1800	H	C	A	3	8 1/2	3	FP	On	Zen	V	D-R	D-R	27	
28	Kleiber 22DD 6 wh.	5000	192	2922	9400	P 32x6	DP32x6	Con 18R	6-4 1/2 x 4 1/2	339	33.9	82-2400	I	C	N	2 1/2	9 1/2	7	FP	On	Zen	V	D-R	D-R	28	
29	Kleiber 28DD 6500 201	136	24000	10000	P 36x8	DP36x8	Con 20R	6-4 1/2 x 4 1/2	411	40.0	89-2400	H	C	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	29		
30	Kleiber 34DD 7500 210	136	24000	10000	P 36x8	DP36x8	Con 21R	6-4 1/2 x 4 1/2	427	45.9	100-2600	H	C	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	30		
31	Kleiber 34DDT 9000 215	136	24000	10000	P 36x8	DP36x8	Bud GF6	6-4 1/2 x 5 1/2	638	54.1	126-1850	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	31		
32	La France Republic 35	170	22900	5700	S 36x6	S 36x14	Wau DU	4-4 1/2 x 5 1/2	324	32.4	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	32		
33	Macar 84	177	209	22900	8200	S 36x6	DS36x6	Bud YBUI	4-4 1/2 x 5 1/2	324	32.4	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	33	
34	Macar 84	177	209	22900	8200	S 36x6	DS36x6	Bud YBUI	4-4 1/2 x 5 1/2	324	32.4	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	34	
35	Mack AC 4950	168	204	22900	8200	S 36x6	DS40x5	Own AC	4-5x6	40.0	40.0	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	35	
36	Mack AC 5250 174	174	209	22900	8200	S 36x6	DS36x5	Own AC	4-5x6	40.0	40.0	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	36	
37	Mack AC 5250 174	174	209	22900	8200	S 36x6	DS36x5	Own AC	4-5x6	40.0	40.0	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	37	
38	Moreland EX-7 4325 182	182	209	22900	8200	S 36x6	DS36x5	Own AC	4-5x6	40.0	40.0	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	38	
39	Pierce-Arrow RD 5400	162	198	22900	8200	S 36x6	DS36x6	Wls RBU	4-4 1/2 x 5 1/2	324	32.4	85-2200	L	G	C	3	10	4	FP	On	Zen	V	D-R	D-R	39	
40	Schacht De Luxe 40	174	199	19800	7000	P 36x8	DP36x8	Her WXC2	6-4 1/2 x 5 1/2	360	36.0	80-2200	L	G	C	2 1/2	9 1/2	7	FP	On	Zen	V	D-R	D-R	40	
41	Selden 67C	174	192	23000	8700	S 36x6	S 36x14	Con 21R	6-4 1/2 x 4 1/2	427	45.9	100-2400	H	C	N	2 1/2	9 1/2	7	FP	On	Zen	V	D-R	D-R	41	
42	Service 100	5830	175	192	9600	S 36x6	S 36x14	Bud BA6	6-4 1/2 x 5 1/2	411	40.8	85-2200	L	G	C	2 1/2	9 1/2	4	FP	On	Zen	V	D-R	D-R	42	
43	Sterling EW 23-64KS	166	180	23000	7950	S 36x5	S 40x10	Wau 6KS	6-4 1/2 x 4 1/2	358	38.4	71-2000	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	43	
44	Sterling DC 23-64KS	166	180	23000	7950	S 36x5	S 40x10	Wau 6KS	6-4 1/2 x 4 1/2	358	38.4	71-2000	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	44	
45	Stewart 31X	4990	165	235	20835	8400	S 36x6	DS36x6	Wau	6-4 1/2 x 5 1/2	462	45.9	100-2000	L	G	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	45
46	Walter 9000 136	24000	10000	P 40x8	DP40x8	Con 20R	6-4 1/2 x 4 1/2	411	40.0	89-2400	H	C	C	3	13 1/2	7	FP	On	Zen	V	D-R	D-R	46			
47	Ward La France 50C	5050	Op	24000	9600	S 36x6	DS40x7	Wau	6-4 1/2 x 5 1/2	462	45															



Line Number	Radiator Make	Clutch Type and Make	Gear Set		Universal Make and No.	Rear Axle		Front Axle		Brakes		Frame		Body Mounting Data		Springs		Line Number									
			Make and Model	Location		No. of Forward Speeds	Aux. Locat. and Speeds	Make and Model	Final Drive and Type	Drive and Torque	Gear Ratios		Service	Area Service Brakes	Hand	Steering Gear Make	Dim. Side Rail		Type	Cap to Rear of Frame	Cap to Rear Axle	Width of Frame	Front	Rear	Auxiliary Type		
											Reduc. in High	Reduc. in Low															
1	R-T	D-Ful	Ful R U 16	U	8 A 2	Spl	Wis 122	2F	H 8.54	140	Wis 122F	W2 41M	TD	Ros	14x2 1/2 x 1 1/2	C	168	105	30	48x3 1/2	52x3 1/2	C					
2	Per	D-Ful	Ful H U 16	U	8 A 2	Spl	Wis 122	2F	H 8.54	175	Wis 122F	W2 41M	TD	Ros	14x2 1/2 x 1 1/2	C	168	105	30	48x3 1/2	52x3 1/2	C					
3	Lon	D.Own	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
4	Per	D-B-L	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
5	Per	D-B-L	B-L 55	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
6	G&O	D-B-L	B-L 55	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
7	Mod	D-B-L	B-L 70	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
8	Lon	D-Ful	Ful H U 16	U	8 A 2	Spl	Wis 122	2F	H 8.54	140	Wis 122F	W2 41M	TD	Ros	14x2 1/2 x 1 1/2	C	168	105	30	48x3 1/2	52x3 1/2	C					
9	Lon	D-Ful	Ful H U 16	U	8 A 2	Spl	Wis 122	2F	H 8.54	140	Wis 122F	W2 41M	TD	Ros	14x2 1/2 x 1 1/2	C	168	105	30	48x3 1/2	52x3 1/2	C					
10	Per	O. H-S	Own	U	8 Op	Blo 4	Own M	BF	H 8.9	88.6	Own M	O41M	252 2I	Ros	7x3x 1/2	C	112	84									
11	Lon	D.Own	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
12	Lon	D.Own	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
13	Lon	D.Own	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
14	Lon	D.Own	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
15	Lon	D-B-L	B-L 55	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
16	Per	D-Ful	Ful H U 16	U	8 A 2	Spl	Wis 122	2F	H 8.54	140	Wis 122F	W2 41M	TD	Ros	14x2 1/2 x 1 1/2	C	168	105	30	48x3 1/2	52x3 1/2	C					
17	Lon	D.Own	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
18	Own	D-Ful	Ful H	U	8 A 8	Blo 4	Wis 1700	2F	H 7.33	82.0	Wis 30	OPM	2I	Ros	7x3x 1/2	C	138	83 1/2	36	46x3	58x3 1/2	N					
19	Own	D-Ful	Ful H1	U	8 A 8	Own	Wis 1010F	WF	R 11.7	126	Shu 610			Ros	7x3x 1/2	C	144	87 1/2									
20	Own	D-Ful	Ful H1	U	8 A 8	Own	Wis 1010F	WF	R 11.7	126	Shu 610			Ros	7x3x 1/2	C	144	87 1/2									
21	Chi	D-B-L	B-L 55	U	7 A 7	Blo	Wis 1500	2F	R 10.0	95.0	Shu 678	W41A	TD	Ros	7x3x 1/2	C	138	83 1/2									
22	Chi	D-B-L	B-L 55	U	7 A 7	Blo	Wis 1500	2F	R 10.0	95.0	Shu 678	W41A	TD	Ros	7x3x 1/2	C	138	83 1/2									
23	You	D-B-L	B-L 55	U	7 A 7	Blo	Wis 1500	2F	R 10.0	95.0	Shu 678	W41A	TD	Ros	7x3x 1/2	C	138	83 1/2									
24	You	B-L	B-L 55	U	7 A 7	Blo	Wis 1500	2F	R 10.0	95.0	Shu 678	W41A	TD	Ros	7x3x 1/2	C	138	83 1/2									
25	Lon	P & B	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
26	Lon	D-B-L	B-L 55	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
27	Own	P.Own	Own	U	5 No	Own	Own	CD	R 10.1	90.5	Eat 747	LT41HV	CD	Ros	8x3x 1/2	C	162	99 1/2	36	40x3	54x4	N					
28	Own	D.Own	Own RD	U	5 No	Own	Own	CD	R 10.1	90.5	Eat 747	LT41HV	CD	Ros	8x3x 1/2	C	162	99 1/2	36	40x3	54x4	N					
29	Own	B-L	B-L 60-7	U	7 A15	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	162	99 1/2	36	40x3	54x4	N					
30	Own	B-L	B-L 70-7	U	7 A15	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	162	99 1/2	36	40x3	54x4	N					
31	Own	B-L	B-L 70-7	U	7 A15	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	162	99 1/2	36	40x3	54x4	N					
32	Own	D-Ful	Ful	U	8 A 8	U-M	Eat	ID	R 10.3	95.5	Shu			Han	7x2x 1/2	C	145	92									
33	Bus	D-B-L	B-L 55	U	4 A 4	Spl	Tim 66702DP	WF	R 9.6	51.7	Tim 16302			Ros	8x3x 1/2	C	148	101 1/2									
34	Own	D-B-L	B-L 60	U	4 A 4	Spl	Tim 66702DP	WF	R 9.6	51.7	Tim 16302			Ros	8x3x 1/2	C	148	101 1/2									
35	Own	P.Own	Own AK	U	4 A 4	Spl	Own AK	CD	R 9.6	51.7	Tim 16302			Own	8x3x 1/2	C	156	105									
36	Own	P.Own	Own AK	U	4 A 4	Spl	Own AK	CD	R 9.6	51.7	Tim 16302			Own	8x3x 1/2	C	156	105									
37	Own	P.Own	Own AK	U	4 A 4	Spl	Own AK	CD	R 9.6	51.7	Tim 16302			Own	8x3x 1/2	C	156	105									
38	Own	P.B-L	B-L 51	U	12 A 4	Det	Tim 65706H	WF	R 7.5	85.4	Tim 16710H	L41HV	429 TI	Ros	9x3x 1/2 x 5/8	C	156	99									
39	Own	D.Own	Own RD	U	4 A 4	Spl	Own RD	WF	R 7.5	85.4	Tim 16710H	L41HV	429 TI	Ros	9x3x 1/2 x 5/8	C	156	99									
40	Own	D-Ful	Ful MG U	U	4 A 4	Spl	Own RD	WF	R 7.5	85.4	Tim 16710H	L41HV	429 TI	Ros	9x3x 1/2 x 5/8	C	156	99									
41	Own	D-B-L	B-L 55	U	7 No	Blo	Wis 1500	2F	R 10.0	95.0	Shu 678	W41A	TD	Ros	7x3x 1/2	C	138	83 1/2									
42	Own	Own	B-L 60 Max	U	7 No	Blo	Tim 68700DP	WF	R 10.0	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
43	Hex	D-B-L	B-L 60	U	4 Op	Spl	Tim 66601D	WF	R 9.5	50.8	Tim 16300	T21M	236 2I	Ros	7x2x 1/2	C	158	97	38	48x3	60x3 1/2	43					
44	Hex	D-B-L	B-L 55	U	4 Op	Spl	Tim 66601D	WF	R 9.5	50.8	Tim 16300	T21M	236 2I	Ros	7x2x 1/2	C	158	97	38	48x3	60x3 1/2	43					
45	Own	D-B-L	B-L 55	U	4 Op	Spl	Tim 66601D	WF	R 9.5	50.8	Tim 16300	T21M	236 2I	Ros	7x2x 1/2	C	158	97	38	48x3	60x3 1/2	43					
46	Own	Own	Own	U	5 No	Own	Own	2D	H 8.5	80.5	Own	O41MV	600 FX	Ros	8x3x 1/2	C	126	96	36	52x4	52x4	46					
47	Own	P.B-L	B-L	U	7 A 7	Spl	Tim	WF	R 10.0	95.0	Tim 16302	T21MV	TX	Ros	8x3x 1/2	C	162	99 1/2	36	44x3	56x3 1/2	47					
48	Own	P.B-L	B-L	U	7 A 7	Spl	Tim	WF	R 10.0	95.0	Tim 16302	T21MV	TX	Ros	8x3x 1/2	C	162	99 1/2	36	44x3	56x3 1/2	47					
49	Mod	D-Ful	Own GRBA	U	4 U	Own	Own	WF	R 10.0	95.0	Tim 16302	L41HV	832 TX	Ros	8x3x 1/2	C	160	105 1/2	48	44x3	56x4	N					
50	Own	P.Own	Own 4B	U	4 A 4	Spl	Own	WF	R 10.0	95.0	Tim 16302			Own	8x3x 1/2	C	167 1/2	107 1/2									
52	Bus	D.Own	Own 5R	U	4 A 4	Own	Own 5R	WF	R 10.0	54.4	Own 5R	O2M	2X	Ros	8x3x 1/2	C	162	99	36	45x3	56x4	N					
53	Bus	D.Own	Own 5R	U	4 A 4	Own	Own 5R	WF	R 10.0	54.4	Own 5R	O2M	2X	Ros	8x3x 1/2	C	162	99	36	45x3	56x4	N					
54	Lon	D-B-L	B-L 70-7	U	7 No	Spl	Tim 68703D	WF	R 10.1	95.0	Shu 678-5	O41A	864 TD	Ros	8x3x 1/2	C	216	129	36	40x3	54x4	N					
55	Lon	D-B-L	B-L 70	U	7 No	Spl	Tim SW-400	WF	R 9.6	90.9	Shu 678-5	O41A	864 TD	Ros	8x3x 1/2	C	216	129	36	40x3	54x4	N					
56	Chi	D-B-L	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
57	Chi	D-B-L	B-L 60 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
58	Chi	D-B-L	B-L 55 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
59	Chi	D-B-L	B-L 55 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
60	Chi	D-B-L	B-L 70 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
61	Chi	D-B-L	B-L 70 Max	U	7 No	Spl	Tim 68700DP	WF	R 10.1	95.0	Tim 16302			Ros	8x3x 1/2	C	144	94 1/2									
62	Own	B-L	B-L 60	U	4 A 4	Spl	Tim 68702DP	WF	R 8.8	83.6	Tim 17300	O2/41A	288 RI	Ros	10x3 1/2 x 1 1/2	C	144	94 1/2									
63	Per	D-B-L	B-L 714	U	8 A 2	Spl	Wis HD	2D	H 8.5	180	Wis HD	O2/41A	288 RI	Ros	10x3 1/2 x 1 1/2	C	144	94 1/2						</			



Line Number	Make, Model and Capacity	General			Tire Size		Make and Model	Engine														Fuel System		Electrical System		Line Number		
		Chassis Price	Standard W.B.	Max. W.B. Furnished	Gross Vehicle Wt. (See Key Note)	Chassis Wt. (Stripped)		Front	Rear	Number of Cylinders Bore and Stroke	Piston Displacement	N.A.C.C. Rated H.P.	Max. Brake H.P. at Specified R.P.M.	Valve Arrangement	Camshaft Drive	Piston Material	Dia. Main Bearings	Length Main Bearings	No. Main Bearings	Oiling System	Governor Make	Carburetor Make	Fuel Feed	Ignition System Make	Generator, Starter Make			
5½ Ton and Over—Cont'd																												
1	Walter FHR 7½ T.	8000	Op	136	24000	10000	P 42x9	DP42x9	Own 6	6-4½x5½	549	48.6	100-1800	L	G	C	3½	10½	4	PC	On	Zen	V	R-Bo	D-R	1		
2	Ward La France 50D-7	5700	Op	28000	9900	P 40x8	DP40x8	Wau SRL	6-4½x5½	462	45.9	97-2000	L	G	C	3	13½	7	FP	Wa	Str	P	D-R	D-R	2			
3	Ward La France 70C-7	5550	Op	28000	10500	S 36x7	DS40x8	Wau SRL	6-4½x5½	462	45.9	97-2000	L	L	G	C	3	13½	7	FP	Wa	Str	P	D-R	D-R	3		
4	Ward La France 7B6	6300	Op	28000	10500	S 36x7	DS40x8	Wau AB	6-4½x5½	540	48.6	100-1800	L	L	G	C	3½	11½	4	FP	Wa	Str	P	D-R	D-R	4		
5	White 52 5-7½ T.	5100	Op	245	28000	9184	S 36x6	S 40x12	Own GRB	6-4½x5½	326.3	28.9	56-1800	L	G	S	2½	11½	3	FP	On	Zen	V	R-Bo	D-R	5		
6	White 59A 5-7½ T.	6000	Op	243	28000	9184	P 40x8	S 40x14	Own 3A	6-4½x5½	396	38.4	75-2000	L	G	S	2½	12½	3	FP	On	Zen	V	R-Bo	D-R	6		
Gasoline Tractor-Trucks																												
7	Amer. LaFrance 5 T.	3950	Op	131	131	6400	S 36x5	S 36x10	Own 2R	4-4½x6	28.9	28.9	75-2000	L	L	G	C	3	9½	2	PC	On	Zen	V	A-Bo	ABol	7	
8	Amer. LaFrance 7 T.	4950	Op	133	133	8400	S 36x6	DS36x6	Own 3R	4-4½x6	36.1	36.1	75-2000	L	L	G	C	3	9½	2	PC	On	Zen	V	A-Bo	ABol	8	
9	Amer. LaFrance 10 T.	5500	Op	133	133	9400	S 36x6	DS40x6	Own 3R	4-4½x6	36.1	36.1	75-2000	L	L	G	C	3	9½	2	PC	On	Zen	V	A-Bo	ABol	9	
10	Amer. LaFrance 13 T.	5750	Op	133	133	9500	S 36x7	DS40x7	Own 5R	4-4½x6	36.1	36.1	75-2000	L	L	L	G	C	3	9½	2	PC	On	Zen	V	A-Bo	ABol	10
11	Amer. LaFrance 15 T.	6000	Op	133	133	9700	S 36x7	DS40x8	Own 5R	4-4½x6	36.1	36.1	75-2000	L	L	L	G	C	3	9½	2	PC	On	Zen	V	A-Bo	ABol	11
12	Armleder 30	115	115	115	4100	S 34x7	S 34x6	Her OX	4-4x5	25.6	25.6	75-2000	L	L	L	G	C	3	9½	2	PC	No	Zen	V	A-L	A-L	12	
13	Armleder 50	116	116	116	5100	S 36x4	S 36x8	Bud YBU-I	4-4½x5½	28.9	28.9	75-2000	L	L	L	G	C	3	9½	2	PC	Ha	Zen	V	A-L	A-L	13	
14	Armleder 70	119	119	119	7000	S 36x6	S 36x12	Bud YBU-I	4-4½x5½	32.4	32.4	75-2000	L	L	L	G	C	3	9½	2	PC	Ha	Zen	V	A-L	A-L	14	
15	Autocar HT 6T	3750	Op	137	137	5800	S 34x5	S 36x10	Own	4-4½x5½	350	32.4	45-1450	L	G	A	2½	15	2	SP	Ph	Str	G	A-Bo	L-N	15		
16	Autocar BHT 6T	4000	Op	137	137	5800	S 34x5	S 36x10	Own	4-4½x5½	350	32.4	45-1450	L	G	A	2½	15	2	SP	Ph	Str	G	A-Bo	L-N	16		
17	Autocar HST 4100	99	137	137	6900	S 34x6	S 36x12	Own	4-4½x5½	350	32.4	45-1450	L	G	A	2½	15	2	SP	Ph	Str	G	A-Bo	L-N	17			
18	Autocar SHST 4400	104	137	137	6900	S 34x6	S 36x12	Own	4-4½x5½	350	32.4	45-1450	L	G	A	2½	15	2	SP	Ph	Str	G	A-Bo	L-N	18			
19	Autocar SCMT 12T	5000	Op	142	142	8600	S 34x7	S 36x14	Own	4-4½x5½	453	48.6	97-2000	L	G	C	3	15	7	PC	Ha	Str	G	R-Bo	L-N	19		
20	Brookway 290 7T	290	146	30000	10750	P 38x7	S 40x14	Con 36B	6-4½x5½	611.4	54.2	116-1800	L	L	C	C	3	13½	7	PC	Pe	Str	E	L-N	L-N	20		
21	Diamond T 303-2	138	138	138	5700	P 34x7	DP34x7	Her WXC	6-3½x4½	33.7	33.7	75-2000	L	L	G	C	3	13½	7	PC	Ha	Str	E	L-N	L-N	21		
22	Diamond T 303-2	138	138	138	5700	P 34x7	DP34x7	Her WXC	6-3½x4½	33.7	33.7	75-2000	L	L	G	C	3	13½	7	PC	Ha	Str	E	L-N	L-N	22		
23	Diamond T 303-2	138	138	138	5700	P 34x7	DP34x7	Her WXC	6-3½x4½	33.7	33.7	75-2000	L	L	G	C	3	13½	7	PC	Ha	Str	E	L-N	L-N	23		
24	Diamond T 303-2	138	138	138	5700	P 34x7	DP34x7	Her WXC	6-3½x4½	33.7	33.7	75-2000	L	L	G	C	3	13½	7	PC	Ha	Str	E	L-N	L-N	24		
25	Freeman BAT-144 7T	6450	Op	144	144	9800	P 38x9	DP38x9	Bud BA6	6-4½x5½	411	40.8	83-2100	L	G	C	2½	9½	4	PC	Bu	Str	E	R-Bo	R-Bo	25		
26	Freeman GLT-144 7T	7050	Op	144	144	10500	P 38x9	DP38x9	Bud GL6	6-4½x5½	572.5	48.6	114-1900	L	G	C	3	10½	4	PC	Bu	Str	E	R-Bo	R-Bo	26		
27	Gen. Mot. 2216 2½-3	1025	130	14000	2975	P 32x6	DP32x6	Pontiac	6-3½x4½	257.5	28.3	76-2500	L	G	C	2½	8½	4	PC	No	Mar	M	D-R	D-R	27			
28	Gen. Mot. 2513 2½-3	1385	130	14000	3545	P 32x6	DP32x6	Buick	6-3½x4½	257.5	28.3	76-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	28			
29	Gen. Mot. 3204 3-4 T.	1700	141	17000	4645	P 32x6	DP32x6	Buick	6-3½x4½	257.5	28.3	76-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	29			
30	Gen. Mot. 4201 4-5 T.	1845	141	19000	4725	P 32x6	DP32x6	Buick	6-3½x4½	257.5	28.3	76-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	30			
31	Gen. Mot. 4404 5-6½	2095	141	23000	5095	P 34x7	DP34x7	Buick	6-3½x4½	331.4	33.7	94-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	31			
32	Gen. Mot. 6202 6½-7½	3035	154	30000	6625	P 34x7	DP34x7	Buick	6-3½x4½	331.4	33.7	94-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	32			
33	Gen. Mot. 6208 7½-8½	3250	154	30000	6800	P 36x8	DP36x8	Buick	6-3½x5	331.4	33.7	94-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	33			
34	Gen. Mot. 8203 8½-10	3935	155	35000	7350	P 36x8	DP36x8	Buick	6-3½x5	331.4	33.7	94-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	34			
35	Gen. Mot. 10-12T	4070	155	40000	7450	P 38x7	DP38x9	Buick	6-3½x5	331.4	33.7	94-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	35			
36	Gen. Mot. 12-15T	6055	185	50000	9475	P 34x7	DP34x7	Buick	6-3½x5	331.4	33.7	94-2500	L	G	C	2½	8½	4	PC	Ha	Mar	M	D-R	D-R	36			
37	Gramm. C112 3 Ton	1445	118	174	3875	P 30x5	DP30x5	Lye 4SL	6-3½x4½	253	25.3	56-2700	L	G	A	2½	8½	4	PC	No	Zen	V	A-L	A-L	37			
38	Gramm. C122 4 Ton	1845	122	196	4820	P 32x6	DP32x6	Lye TS	6-3½x5	353.8	36.2	90-2750	L	G	A	2½	8½	4	PC	No	Zen	V	A-L	A-L	38			
39	Gramm. D122 5 Ton	2045	122	196	5020	P 32x6	DP32x6	Lye TS	6-3½x5	353.8	36.2	90-2750	L	G	A	2½	8½	4	PC	No	Zen	V	A-L	A-L	39			
40	Gramm. E118 6 Ton	2845	118	196	5200	P 34x7	DP37	Lye TS	6-3½x5	353.8	36.2	90-2750	L	G	A	2½	8½	4	PC	No	Zen	V	A-L	A-L	40			
41	Gramm. 45-10 Ton	4045	153	200	7600	S 36x5	S 36x12	Her L	4-4½x5½	365.8	32.4	59	L	G	C	3	9½	2	PC	Pe	Zen	V	A-L	A-L	41			
42	Gramm. 45-10 Ton	4045	153	200	7600	S 36x5	S 36x12	Lye TS	6-3½x5	353.8	36.2	90-2750	L	G	A	2½	8½	4	PC	Pe	Zen	V	A-L	A-L	42			
43	Gramm. 60 15 Ton	3795	153	200	8700	S 36x6	S 36x14	Lye TS	6-3½x5	353.8	36.2	90-2750	L	G	A	2½	8½	4	PC	Pe	Zen	V	A-L	A-L	43			
44	Gramm. 60 15 Ton	3795	153	200	8700	S 36x6	S 36x14	Lye TS	6-3½x5	353.8	36.2	90-2750	L	G	A	2½	8½	4	PC	Pe	Zen	V	A-L	A-L	44			
45	Hug 486	140	140	140	6430	P 34x7	DP34x7	Bud DW6	6-3½x5	331	32.7	73-2200	L	G	C	2½	8½	4	PC	Bu	Str	E	L-N	L-N	45			
46	Indiana 290	146	146	146	10750	P 38x7	S 40x14	Con 36B	6-4½x5½	542	54.2	116-1800	L	L	C	C	3	13½	7	PC	Pe	Str	E	L-N	L-N	46		
47	Int. Harvester HS-54	130	200	130	7675	S 36x5	S 36x8	Has 151	4-4½x5½	28.9	28.9	75-2000	L	H	H	H	3	9½	2	PC	HS	Zen	G	R-Bo	D-R3	47		
48	Int. Harvester HS-54C	130	200	130	7675	S 36x5	S 36x8	Has 151	4-4½x5½	28.9	28.9	75-2000	L	H	H	H	3	9½	2	PC	HS	Zen	G	R-Bo	D-R3	48		
49	Int. Harvester HS-74	144	235	144	9530	S 36x6	S 40x12	Has 152	4-4½x5½	36.1	36.1	75-2000	L	H	H	H	3	9½	2	PC	HS	Zen	G	R-Bo	D-R3	49		
50	Int. Harvester HS-74C	146	235	146	9555	S 36x6	S 40x12	Has 152	4-4½x5½	36.1	36.1	75-2000	L	H	H	H	3	9½	2	PC	HS	Zen	G	R-Bo	D-R3	50		
51	Int. Harv. HS-104C	146	235	146	10425	S 36x6	S 40x14	Has 152	4-4½x5½	36.1	36.1	75-2000	L	H	H	H	3	9½	2	PC	HS	Zen	G	R-Bo	D-R3	51		
52	Mack AB 5-6 Ton	3400	123	123	6180	S 36x4	DS36x4	Own AB																				

Line Number	Radiator Make	Clutch	Gear Set	Universal Make and No.	Make and Model	Final Drive and Type	Rear Axle	Front Axle	Brakes	Frame	Body Mounting Data	Springs	Auxiliary Type	Line Number
1	Ow	Ow	Ow	U	Ow	2D	H 8.5	Ow	O4FXM	600	FX	Ros	13x3x1/4	1
2	Ow	P-B-L	B-L	A	Tim 68702	WF	H 8.5	Tim	T2IMV	...	TX	Ros	8x3 1/2 x 1/2	2
3	Ow	P-B-L	B-L	A	Tim 68700	WF	H 8.5	Tim	T2IMV	...	TX	Ros	8x3 1/2 x 1/2	3
4	Ow	P-B-L	B-L 7	A	Tim 68700D	WF	H 8.5	Tim	OPM	235	2X	Ow	9x3 1/2 x 1/2	4
5	Ow	P.Own	Ow GRB	U	Ow	2F	R 11.7	Ow	OPM	235	2X	Ow	9x3 1/2 x 1/2	5
6	Ow	P.Own	Ow 4B	U	Ow 6C	2F	R 10.1	Ow 5D	OPM	235	2X	Ros	9x3 1/2 x 1/2	6
7	Bus	D.Own	Ow 2R	A	Ow 2R	2F	7.57	Ow 2R	...	...	...	...	...	7
8	Bus	D.Own	Ow 3R	A	Ow 3R	WF	8.8	Ow 3R	...	...	...	...	...	8
9	Bus	D.Own	Ow 5R	A	Ow 5R	WF	10.0	Ow 5R	...	...	...	...	...	9
10	Bus	D.Own	Ow 5R	A	Ow 5R	WF	10.0	Ow 5R	...	...	...	...	...	10
11	Bus	D.Own	Ow 5R	A	Ow 5R	WF	11.7	Ow 5R	...	...	...	...	...	11
12	Lon	D-B-L	B-L 35	A	Spl	Tim	8.8	Tim	...	...	...	...	...	12
13	Lon	D-B-L	B-L 51	A	Spl	Tim	9.25	Tim	...	...	...	...	...	13
14	Lon	D-B-L	B-L 55	A	Spl	Tim	12.0	Tim	...	...	...	...	...	14
15	Ow	P.Own	Ow 8H	U	Ow 8H	2F	H 7.67	Ow 8H	O2IM	328	2I	Ros	7x2 1/4 x 1/4	15
16	Ow	P.Own	Ow 8H	U	Ow 8H	2F	H 7.67	Ow 8H	O2IM	328	2I	Ros	7x2 1/4 x 1/4	16
17	Ow	P.Own	Ow 8H	U	Ow 8H	2F	H 8.87	Ow 8H	O2IM	516	2I	Ros	7x2 1/4 x 1/4	17
18	Ow	P.Own	Ow 8H	U	Ow 8H	2E	H 8.87	Ow 8H	O2IM	516	2I	Ros	7x2 1/4 x 1/4	18
19	Ow	P.Own	Ow SCM	U	Ow SCM	WF	H 8.87	Ow CL	O2IM	516	TD	Ros	9x3 1/2 x 1/2	19
20	Lon	D-B-L	B-L 70-7	A	Tim 68703D	SF	R 10.1	Shu 678-5	T4IA	864	TD	Ros	8x3x1/4	20
21	G&O	D.Cov	Cov	U	Spl	Tim	...	Shu	...	...	...	...	...	21
22	G&O	D.Cov	Cov	U	Spl	Tim	...	Shu	...	...	...	...	...	22
23	G&O	D.Cov	Cov	U	Spl	Tim	...	Shu	...	...	...	...	...	23
24	G&O	D.Cov	B-L	U	Spl	Tim	...	Shu	...	...	...	...	...	24
25	Lon	D.Ful	Ful H U16	U	A8 BC	Ow	R 8.53	Ow	O4FXM	336	TX	Ros	7x3 1/4 x 1/4	25
26	Lon	D.Ful	Ful H U16	U	A8 BC	Ow	R 8.53	Ow	O4FXM	336	TX	Woh	8x3x1/4	26
27	Lon	P.Own	Mun	U	Tim 5261	S 1/2	H 6.8	Tim 11710	B4IM	377	TX	Jac	6x2 1/4 x 1/4	27
28	Lon	D.Own	Mun	U	Tim 5261	S 1/2	H 6.8	Tim 11710	B4IM	377	TX	Jac	6x2 1/4 x 1/4	28
29	Lon	D.Own	Mun	U	Eat 1617	S 1/2	H 6.43	Eat 433F	B4IM	453	TX	Jac	6x 1/2 x 1/2	29
30	Lon	D.Own	Mun	U	Eat 1717	S 1/2	H 7.14	Eat 433F	B4IM	524	TX	Jac	6x 1/2 x 1/2	30
31	Lon	D.Own	Mun	U	Eat T44 DR	WF	R 9.45	Eat 433 F	B4IM	524	TX	Jac	6x 1/2 x 1/2	31
32	Lon	D.Own	Mun	U	Tim 65706	WF	R 10.7	Eat 527 F	B4IM	687	TX	Jac	9x3 1/2 x 1/2	32
33	Lon	D.Own	Mun	U	Tim 65706	WF	R 10.7	Eat 527 F	B4IM	687	TX	Jac	9x3 1/2 x 1/2	33
34	Lon	D.Own	B-L	A	Tim 66704	WF	R 12.3	Eat 527 F	B4IM	795	TX	Jac	9x3 1/2 x 1/2	34
35	Lon	D.Own	B-L	A	Tim 66704	WF	R 12.3	Eat 527 F	B4IM	795	TX	Jac	9x3 1/2 x 1/2	35
36	Lon	D.Own	B-L	A	Tim SW 200	BF	R 10.3	Eat 527 F	B4IA	870	TX	Jac	9x3 1/2 x 1/2	36
37	Per	P.Own	Cov A-41	U	Tim 54000	BF	...	Col 4003	...	...	...	...	...	37
38	Per	P.Own	Cov W4J	U	Tim 54000	BF	...	Col 4003	...	...	...	...	...	38
39	Per	P.Own	Cov W4J	U	Tim 56000H	BF	...	Col 5500	...	...	...	...	...	39
40	Per	P.Own	Cov W4J	U	Wls 6617B	BF	...	Col 5500	...	...	...	...	...	40
41	Ow	D.Own	Ful H	A	Wls 1450	2F	7.08	Wls 30	...	...	...	...	...	41
42	Ow	D.Own	Ful H	A	Wls 1450	2F	7.08	Wls 30	...	...	...	...	...	42
43	Ow	D.Own	Ful H	A	Wls 1700	2F	7.33	Wls 30	...	...	...	...	...	43
44	Ow	D.Own	Ful H	A	Wls 1700	2F	7.33	Wls 30	...	...	...	...	...	44
45	Lon	B-L	B-L 51	U	Wls 8800B	WF	7.85	Shu 5550	...	...	...	...	...	45
46	Lon	B-L	B-L 70	A	Tim 68703D	2F	...	Shu 678-5	...	...	...	...	...	46
47	Ow	P.Own	Ow	U	Eat 54	CD	6.85	Eat 54F	Ow	...	...	...	...	47
48	Ow	P.Own	Ow	U	Eat 74	CD	7.22	Eat 54F	Ow	...	...	...	...	48
49	Ow	P.Own	Ow	U	Eat 74	CD	7.22	Eat 54F	Ow	...	...	...	...	49
50	Ow	P.Own	Ow	U	Ow	CD	8.81	Eat 74F	Ow	...	...	...	...	50
51	Ow	P.Own	Ow	U	Ow	CD	10.1	Eat 74F	Ow	...	...	...	...	51
52	Ow	P.Own	Ow AB	U	Ow AB	CD	10.5	Ow AB	Ow	...	...	...	...	52
53	Ow	P.Own	Ow AK	U	Ow AK	CD	9.1	Ow AK	Ow	...	...	...	...	53
54	Ow	P.Own	Ow AC	U	Ow AC	CD	9.7	Ow AC	Ow	...	...	...	...	54
55	Ow	P.Own	Ow AC	U	Ow AC	CD	9.7	Ow AC	Ow	...	...	...	...	55
56	Ow	P.Own	Ow AC	U	Ow AC	CD	11.5	Ow AC	Ow	...	...	...	...	56
57	Ow	P.Own	Ow AC	U	Ow AC	W 1/2	11.5	Ow AC	Ow	...	...	...	...	57
58	Ow	P.Own	Ow XB	U	Ow XB	WF	9.25	Ow	Ow	...	...	...	...	58
59	Ow	P.Own	Ow RD	U	Ow RD	WF	7.8	Ow	Ow	...	...	...	...	59
60	Ow	P.Own	Ow RF	U	Ow RF	2F	10.0	Ow	Ow	...	...	...	...	60
61	Ow	D-B-L	B-L 35	U	Ow 30	2F	6.45	Tim 14704 H	...	...	...	...	...	61
62	Ow	D-B-L	B-L 51	U	Ow 60	2D	7.88	Tim 1573 H	...	...	...	...	...	62
63	Ow	D.Own	Ow	U	Ow	2D	8.50	Ow	...	...	...	...	...	63
64	Ow	Ow	Ow	U	Ow	2D	8.50	Ow	...	...	...	...	...	64
65	Ow	P-B-L	B-L 70Max	A	Tim 68700	WF	H 11.7	Tim 17300	T2IMV	...	TX	Ros	9x3 1/2 x 1/2	65
66	Ow	P.Own	Ow 4B	U	Ow	2F	H 11.7	Ow	OPM	235	2X	Ow	9x3 1/2 x 1/2	66
67	Ow	P.Own	Ow 4B	U	Ow	S 1/2	7.14	Ow	...	...	...	...	...	67
68	Ow	P.Own	Ow 4B	U	Ow	S 1/2	7.14	Ow	...	...	...	...	...	68

## Key of Abbreviations

Auxiliary, Location and Number of Speeds  
 No—Not furnished.  
 Op—Optional at extra cost.  
 A—Amidships.  
 R—Rear of amidships main transmission.  
 U—Unit with engine.

## UNIVERSAL JOINTS

Ble—Blood Bros. Mach. Co.  
 B-C—Blood and Cleveland.  
 Cle—Cleveland Steel Prod. Corp.  
 Har—Spicer Mfg. Co.  
 M.M.—Mechanics Machine Co.  
 PeS—Peters and Spicer.  
 Pet—Peters.  
 P-S—Peters and Sneed.  
 S-C—Spicer and Cleveland.  
 Spl—Spicer Mfg. Co.  
 Sp—Superior Universal Products Co.  
 SpP—Spicer and Pick.  
 U-M—Universal Machine Co.  
 U-P—Universal Products Co.

## REAR AXLE

Make  
 Cla—Clark Equip. Co.  
 Col—Columbia Axle Co.  
 Con—Continental Axle Co.  
 Eat—Eaton Axle Co.  
 Sal—Salisbury Axle Co.  
 Tim—Timken Det. Axle Co.  
 Wis—Wisconsin Axle Co.

## Final Drive and Type

B—Bevel.  
 C—Chain.  
 D—Dead.  
 I—Internal Gear.  
 2—Double Reduction.  
 S—Spiral Bevel.  
 W—Worm.  
 1/2—Semi-Floating.  
 3/4—Three-Quarter Floating.  
 F—Full Floating.

## Drive and Torque

H—Hotchkiss.  
 R—Radius Rods.  
 T—Torque Arm.  
 U—Torque Tube.  
 R—Radius Rods and Springs.  
 O—Radius Rods Optional.

## FRONT AXLE

Make and Model  
 Shu—Shuler Axle Co., Inc.  
 Cla—Clark Equipment Co.  
 Col—Columbia Axle Co.  
 Con—Continental Axle Co.  
 Eat—Eaton Axle Co.  
 Sal—Salisbury Axle Co.  
 Tim—Timken Det. Axle Co.  
 Wis—Wisconsin Axle Co.

## BRAKES

Service Make  
 B—Bendix.  
 BE—Bendix front, Eaton rear.  
 BO—Bendix front, Own rear.  
 C—Columbia.  
 K—Clark.

## Location

L—Lockheed.  
 LO—Lockheed front, Own rear.  
 O—Own.  
 OE—Own front, Eaton rear.  
 OW—Own front, Wisconsin rear.  
 S—Steeldraulic.  
 T—Timken.  
 W—Wisconsin.  
 2—Two Wheel.  
 4—Four Wheel.  
 2/4—Two wheel brakes effective on all four wheels through driveshaft.  
 F—Driveshaft.  
 J—Jackshaft.  
 P—Propeller shaft.  
 P/4—Propeller shaft effective on four wheels.  
 r—Four rear wheels.

## Type

I—Internal.  
 V—Internal front and external rear.  
 X—External.

## Method of Operation

A—Air.  
 D—Hydraulic and mechanical.  
 H—Hydraulic.  
 M—Mechanical.  
 V—Vacuum.  
 Hand Location  
 C—Center of double propeller shaft.  
 2—Rear wheel.  
 4—Four wheels.  
 R—Worm or bevel gear shaft.  
 T—Transmission.  
 F—Driveshaft.

## Type

D—Disk.  
 I—Internal.  
 X—External.  
 V—Internal front and external rear.

## STEERING GEAR

Make  
 CAS—Columbus G. & P. Co.  
 Gem—Gemmer Mfg. Co.  
 Han—Hannum Mfg. Co.  
 Jac—Saginaw Steering Gear Div. General Motors Corp.  
 Lav—Hannum Mfg. Co.  
 Ros—Ross Gear & Tool Co.  
 Woh—Wohlraib Gear Co.

## FRAME

Dimensions Side Rail Depth, Width of Flange, Thickness of Stock.

## Type

C—Channel.  
 I—I Beam.  
 P—Channel reinforced with plate.  
 T—Side rails tapered front and rear.

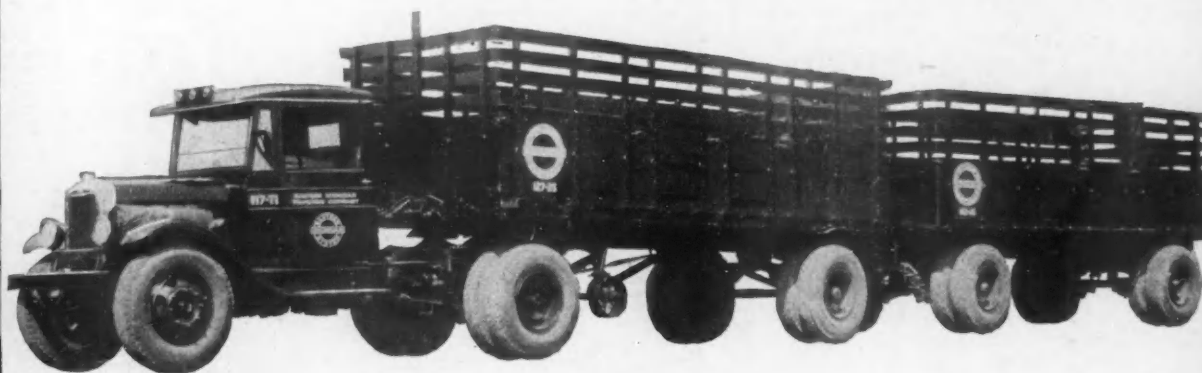
## SPRINGS

## Auxiliary

## Type

1/4—Semi-elliptic above or below main springs.  
 1/2—Quarter elliptic.  
 C—Coil spring.

# Fruehauf



## Stick to Transportation

Why take on other lines of merchandise that have no connection whatever with transportation? Why try to train your salesmen and equip your plant to handle and service a new line of products? Stick to Transportation. By taking on the Fruehauf line of Trailers you immediately open up new, profitable selling fields. Your own and your salesmen's experience fits exactly. Your shop is now completely equipped for Trailer service. The Fruehauf line simply enlarges your field and increases your opportunities to make more profits. Why not write for information about Fruehauf Trailers and the Fruehauf proposition?

*Oldest and Largest Manufacturers of Trailers*

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FRUEHAUF TRAILER CO. OF CANADA, Ltd., Toronto, Canada  
Semi-Trailers, 4-Wheel Trailers, Pole Trailers, Heavy-Duty Carryalls



# Trailers



# MR. QUAY gives us a piece of his mind...

**SHERWOOD BROS. INC.**  
PETROLEUM PRODUCTS



PHILADELPHIA, PA.

OFFICE & PLANT  
21ST & MOYAMENSING AVE  
POINT BREEZE

OREGON 0887  
" 0883  
" 0884  
RACE 8318

Budd Wheel Company,  
Detroit, Mich.

Gentlemen: Att: Mr. L. E. Godsell.

Your letter of October 24th, has been handed to the writer for attention, and in reply would state that whenever we can, we always specify Budd Wheels in purchasing a new truck.

The construction of the Budd Wheel eliminates wobbling, and affords ease in re-tiring when it is necessary to do so.

We feel that your slogan -- Positive Alignment -- Long Tire Life -- speaks for itself, and wish to assure you that any future trucks purchased by us will be bought only on condition that they are equipped with Budd Wheels.

Yours very truly,  
SHERWOOD BROS, INC.

EWQuay/TB

BY:

*E. W. Quay*  
*Supt.*

**BUDD DUALS**  
BUDD WHEEL COMPANY, DETROIT

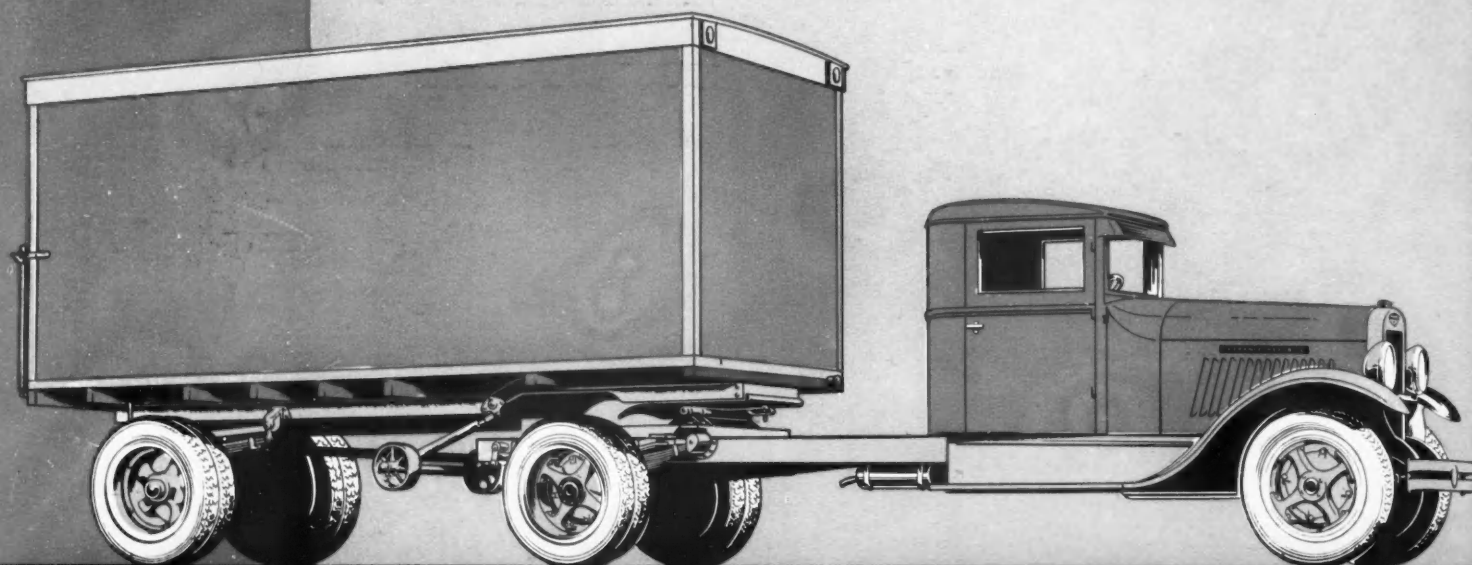
# REACHING IN MOTOR TRUCK

UNDER THE LEADERSHIP

OF MEN WHO HAVE MET

THE CHALLENGE OF

MODERN REQUIREMENTS



# LA FRANCE-REPUBLIC

C O R P O R A T I O N A

(Above) LaFRANCE-REPUBLIC D-1. 9,000 pounds straight rating capacity. Husky 6-cylinder truck motor. Heavy 4-speed transmission with generous margin of strength. Sturdy axles — rear Timken built, full floating. Hydraulic 4-wheel internal expanding brakes. Heavy frame and springs, with auxiliaries for capacity loading. Heavy duty tires, dual rears. A truck of distinguished style.

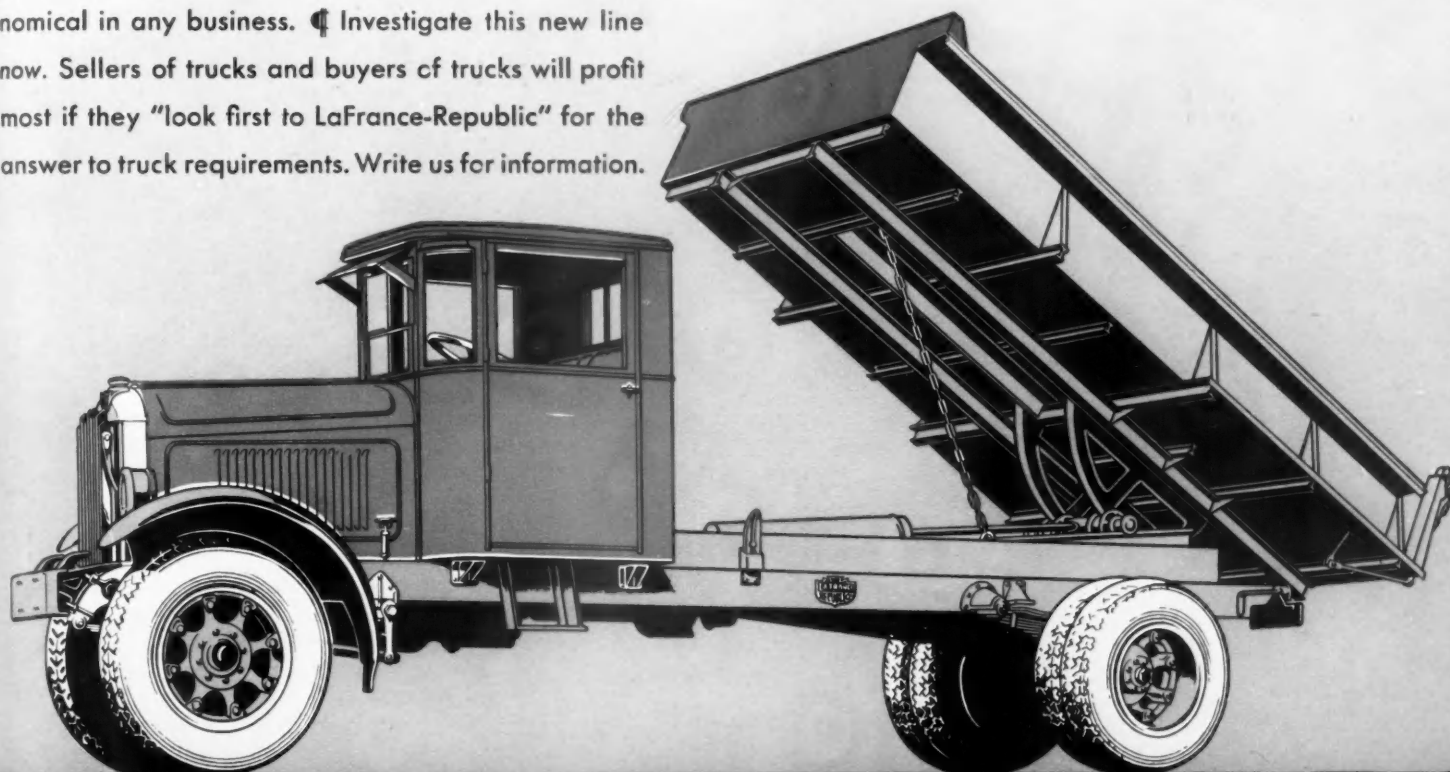
(Right) LaFRANCE-REPUBLIC M-1. 20,000 pounds straight rating capacity. Heavy duty, truck type 6-cylinder engine. 5-speed transmission with high speed reverse. Full floating, double reduction rear axle, all gears enclosed in continuous oil bath. Full 7-inch frame. Husky springs, with auxiliaries. Heavy duty cord tires, dual rears. Every working part and every load-carrying part has strength for extra years of use.

# A NEW PEAK PERFORMANCE

The challenge of today is: "Modernize in truck design-  
ing and building. Economize in operating costs. Spe-  
cialize in performance. ☛ LaFrance-Republic has met  
this challenge and more! . . . it has anticipated future  
requirements. In the new complete line of trucks it has  
reached a new peak in truck performance for today  
and tomorrow. In that line is one or more models which  
will make hauling faster, surer, safer and more eco-  
nomical in any business. ☛ Investigate this new line  
now. Sellers of trucks and buyers of trucks will profit  
most if they "look first to LaFrance-Republic" for the  
answer to truck requirements. Write us for information.

## THE NEW, COMPLETE LAFRANCE-REPUBLIC LINE

Model A-1. 6,000 lbs. Straight Rating Cap.	Model L-1. 18,000 lbs. Straight Rating Cap.
Model C-1. 7,000 lbs. Straight Rating Cap.	Model M-1. 20,000 lbs. Straight Rating Cap.
Model D-1. 9,000 lbs. Straight Rating Cap.	The "Chief" . . . . . 2-2½ tons Cap.
Model F-2. 12,000-13,000 lbs. Straight Rating Cap.	The "Chieftain" . . . . . 3-4 tons Cap.
Model H-1. 15,000 lbs. Straight Rating Cap.	The "Big Chief" . . . . . 5-7½ tons Cap.



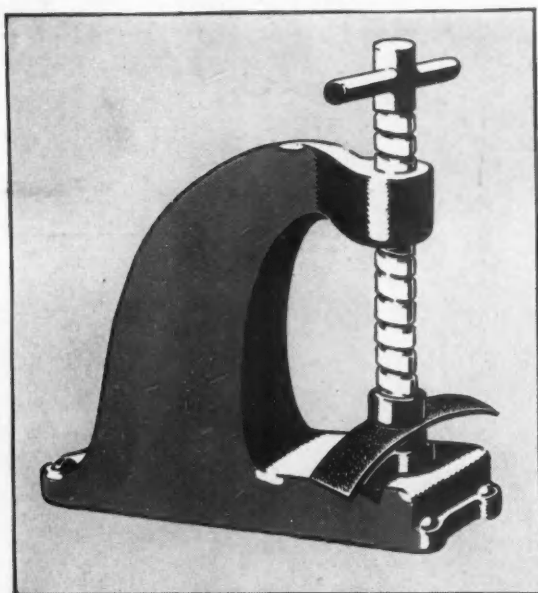
# - REPUBLIC

N A L M A , M I C H I G A N



at rating  
5-speed  
double  
oil bath.  
heavy duty  
every load-





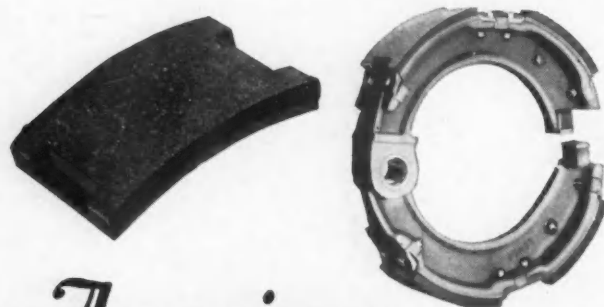
NOW....  
SAFER BRAKES  
at LOWER COST  
because

## AMERICAN BRAKEBLOKS

ARE NON-COMPRESSIBLE  
even at many times the most  
severe braking pressures

also because:

- 1 American Brakebloks have no metallic content to cut or score drums.
- 2 They will not burn or smoke. Heat, even under the most severe braking conditions, will not affect them.
- 3 They will not swell or wedge, and therefore cannot wear off in spots.
- 4 They recover quickly and completely from the effects of water, oil and grease—a feature which makes them equally efficient under all conditions.
- 5 They have the proper frictional qualities throughout their entire thickness.



*American*

# BRAKEBLOKS

May, 1930

Modern brakes, with their close clearances, demand a modern brake material—one that is NON-COMPRESSIBLE.

Any lining that compresses under heavy pedal pressures is exceedingly costly, dangerous, and inefficient. It is costly because it causes enlarged clearances and frequent adjustments. It is dangerous because it may, at any time, cause clearances so great that all braking effect is lost. It is inefficient because it reduces braking area.

American Brakebloks completely eliminate these troubles. Brakes, equipped with this modern material, go for long periods without requiring a single clearance adjustment. For American Brakebloks are NON-COMPRESSIBLE even at many times the highest pedal pressures.

Clearance adjustments are required (1) to compensate for a compressed lining; (2) to compensate for lining wear. American Brakebloks eliminate the first cause entirely. Moreover, they greatly reduce the number of "wear" adjustments, because they are made of a new and tougher material that wears and wears and wears.

American Brakebloks will cut your brake maintenance costs. They will keep your expensive equipment on the road—working and earning. They will cut the cost per stop! Begin now to profit by this new economy. Write us for full particulars.

*More than 30 manufacturers of buses and trucks already have adopted American Brakebloks as original equipment on part or all of their production*

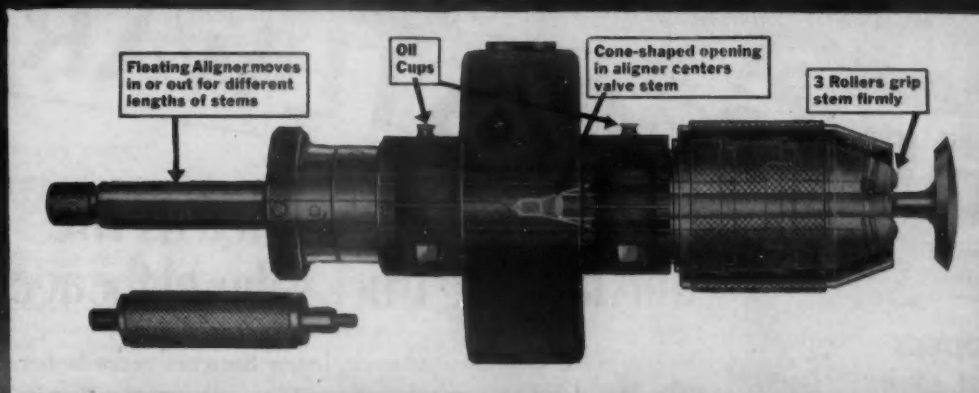
AMERICAN BRAKE MATERIALS CORPORATION  
Industrial and Automotive Division American Brake Shoe & Foundry Co.  
4660 Merritt Ave. Detroit, Michigan, U. S. A.  
Sales Offices: NEW YORK CHICAGO SAN FRANCISCO

*The Commercial Car Journal  
and Operation & Maintenance*

# VALVE FACE GRINDING MACHINE

Your Jobber  
Sells It

with the  
Sioux Roller  
Chuckling System



## Here's the Chuck that does the job RIGHT!

The Sioux roller chucking system is just about as fool-proof as a piece of machinery CAN be.

**It is self-aligning**. . . . the rollers automatically draw the valve stem back into the aligner when the chuck is tightened.

**It gives the correct gripping** for accurate work . . . . the three rollers grip the valve stem just above the worn surface, the only proper place to chuck a valve if the valve face is to be ground in proper relation to the valve seat and valve stem guide hole in the motor.

**It holds the valve stem end rigidly centered** in the cone-shaped center of the floating aligner, another aid to accuracy.

**It assures long, dependable service.** The floating rollers change position on every valve chucked, thus avoiding undue wear at any one point.

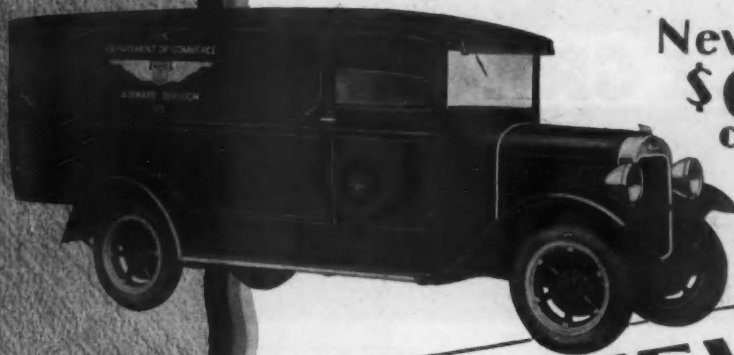
You can get this Sioux Chucking system and other exclusive Sioux features **ONLY** in the Sioux Valve Face Grinding Machine. Investigate the Sioux before you buy.

**ALBERTSON & CO. INC., Sioux City, Iowa, U. S. A.**



STANDARD THE

WORLD OVER



New 1 Ton  
\$695  
Chassis

# THE 1930 STEWARTS

...are being hailed as the outstanding truck value of the age

## MODELS

### BEVEL AXLE

1 ton 4 Cylinder	\$ 695
1 ton 6 Cylinder	795
1¼ ton 6 Cylinder	1195
1½ ton 6 Cylinder	1495
2 ton 6 Cylinder	1695
2½ ton 6 Cylinder	1990

### WORM AXLE

2 ton 6 Cylinder	\$2290
2½ ton 6 Cylinder	2690
3 ton 6 Cylinder	3290
3½ ton 6 Cylinder	3690
5 ton 6 Cylinder	4990
6-7 ton 6 Cylinder	5700

f.o.b., Buffalo

Before you buy a truck, learn Stewart records for long life and low repair bills. They are outstanding in the industry. The Stewart buyer can divide the initial cost of his truck by 5 years or more. Many Stewarts are still in operation after 8, 10 and 12 years of constant service. This ability to stay on the road and out of the repair shop year after year has earned Stewart a world-wide reputation as "America's Greatest Truck Value."

The new Stewart 1 tonner offers a long list of mechanical features formerly found only on the finest trucks plus the time tested and proven Stewart quality at a price that smashes all precedent. From radiator to tail light an honestly rated truck built by exclusive truck makers entirely of truck parts.

STEWART MOTOR CORPORATION  
BUFFALO, N. Y.

Export Branch: 1 Broadway (Dept. 3) NEW YORK CITY, U. S. A.  
Cables: Stewartruk New York. Codes: Acme, Bentley.

# Stewart

MOTOR TRUCKS

New 5 Ton  
6 cylinder  
4 wheel Brakes  
\$4990  
chassis



**Stewart Trucks have won—By costing less to run**



# 90% OF ALL HIGH-PRESSURE PNEUMATIC TIRE TROUBLES *Eliminated!*

Read these typical comparisons between high-pressures and General Jumbo Balloons taken at random from the thousands of change-overs:

## ON THE SAME JOB

### Before

*changing-over from  
High-Pressures*

WISCONSIN. Averaged 11,000 miles on 300-mile round trip, 6 to 8 ton loads.

PACIFIC COAST. Operator blew as many as 3 tires on one trip. 765 miles daily run — 3 drivers used.

CHICAGO. Long haul, average speed 45 to 50 miles per hour, caused overheating and blow-outs often after only 7,000 miles.

SOUTHERN CALIFORNIA. Average run 200 miles; gross weight 32,000 lbs. Had to keep speed down due to overheating.

OKLAHOMA. Transit cement mixers cut and chipped high-pressures in going into rough places. Often unable to get in at all.

TEXAS. Fast 200-mile daily run caused overheating and premature tread wear.

NEW ENGLAND. Operator sustained 20% loss in hauling roses due to bruising of petals. Tires averaged 9,000 miles.

WASHINGTON. Road builder couldn't get necessary traction in loose dirt; about to give up contract.

MASSACHUSETTS. Operator got only 7 miles to gallon and had to run at slow speeds, due to poor traction on rough roads.

### After

*changing-over to the  
GENERAL JUMBO  
Truck-Balloon*

With same load Jumbo Balloon mileage to date 28,000 — an increase of 250%!

20,000 miles so far and Jumbo Balloons still running! 12 trucks changed-over. Make 50 to 65 miles per hour in rain on mountain roads.

2 punctures only tire trouble, mileage 29,536 with General Balloons still in good condition. Blow-outs stopped!

Saves 3 hours per trip! General Balloons have gone 40,000 miles to date, 1/16" non-skid still visible in center of tread.

5 jobs changed-over. After 7 months operator says, "No more high-pressures for me," and has standardized on General Balloons for all his equipment!

Saves 2 hours per truck per day with 75% more mileage so far and Jumbo Balloons still in service!

Not a rose bruised. General Balloon mileage to date 16,000, with practically no tread wear!

Now gets more than enough traction with Jumbo Balloons and twice the speed of high-pressures!

Uses 60% less gas, maintains higher speeds, and Jumbo Balloons have gone 26,000 miles on long trips in hot weather, with non-skid only half worn!

The only complete line of Truck Balloons . . . including 24-inch wheel sizes. Now you can change-over to balloons without changing wheels!

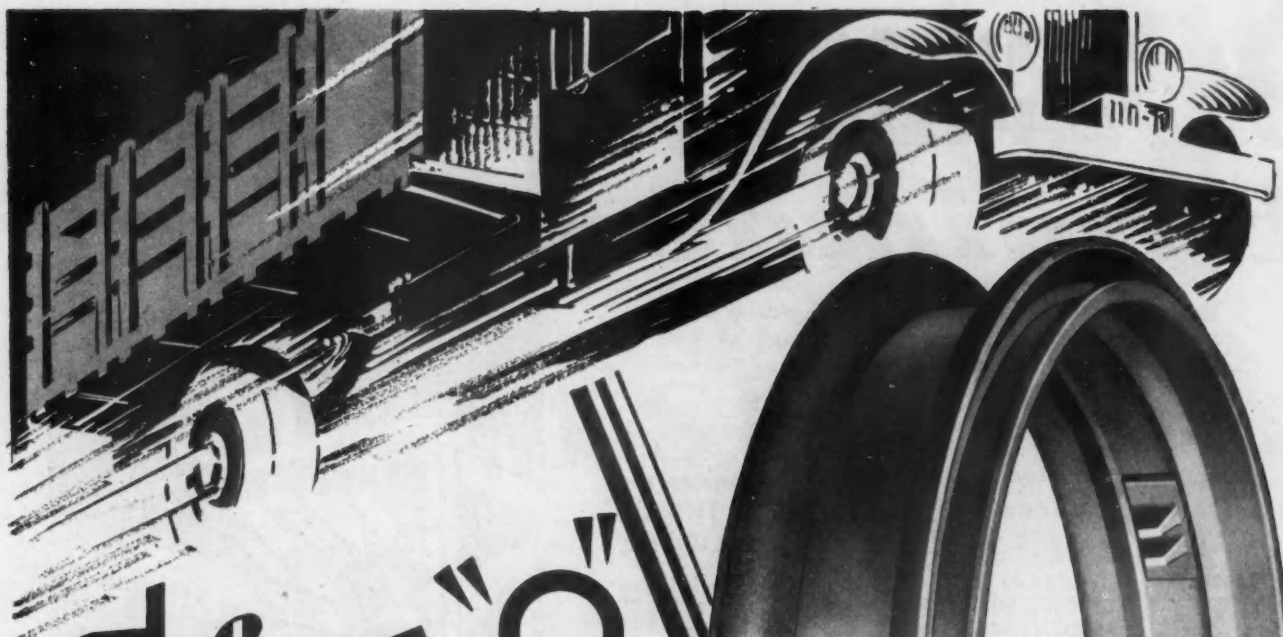
Ask your General Tire dealer for a change-over figure on your equipment. The General Tire and Rubber Company, Akron, Ohio.



Consult with your truck manufacturer regarding General Jumbo Truck-Balloons on your next truck.

# The GENERAL Jumbo Truck-Balloon

(—goes a long way to make friends)



# The TYPE "O" RIM for MEDIUM DUTY... HIGH SPEED... TRUCKS...

THE Firestone Type "O" Rim is made for trucks of medium capacity. Heavy base made from special steel sections, continuous side rings, and double bevel mounting, assure durability, positive alignment, and ease of operation.

Firestone manufactures a complete line of rims to meet every condition of service demanded by passenger car and truck users.

**FIRESTONE STEEL  
PRODUCTS CO.**  
Firestone Park  
AKRON - OHIO



"SERVICE EVERYWHERE"

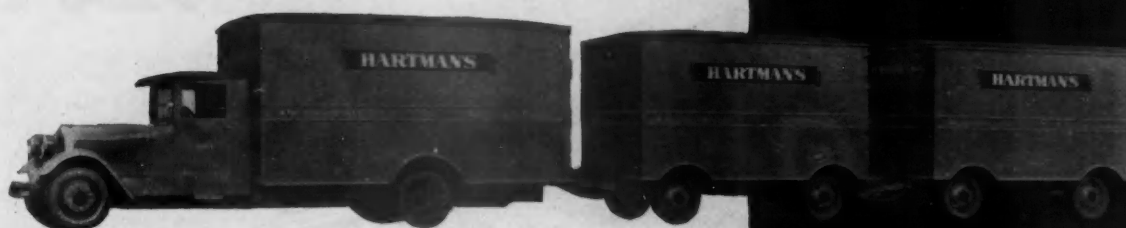
# Firestone

SPECIFY FIRESTONE RIMS FOR EVERY TYPE OF WHEEL—WIRE—WOOD—STEEL

Copyright, 1930, The Firestone Steel Products Co.  
May, 1930

Type "O" Rims are made in four sizes—30x5, 32x6, 34x7 and 36x8 "OB". All sizes fit the same wheel.

The Commercial Car Journal  
and Operation & Maintenance



## MAKING MULTIPLE TRAILER UNITS FEASIBLE *and* PROFITABLE

Bendix-Westinghouse Automotive Air Brakes deserve no small credit for the conspicuous success heavy duty truck and trailer operation enjoys today. Thousands of fleet operators have demonstrated the economy of the Bendix-Westinghouse system of brake control.

A notable example is the truck and trailer combination, shown in the accompanying illustration. This is one unit of a large air braked fleet which averages two hundred miles daily, under full load, in intercity service.

The countless advantages Bendix-Westinghouse Automotive Air Brakes offer the modern fleet operator make his preference for this tested control obvious.



Bendix - Westinghouse engineers, specialists in power brake control, are always available to the operator where air brake adoption is considered. Their counsel in solving any braking problem that might arise may be had by addressing the BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY at Pittsburgh, Penna.

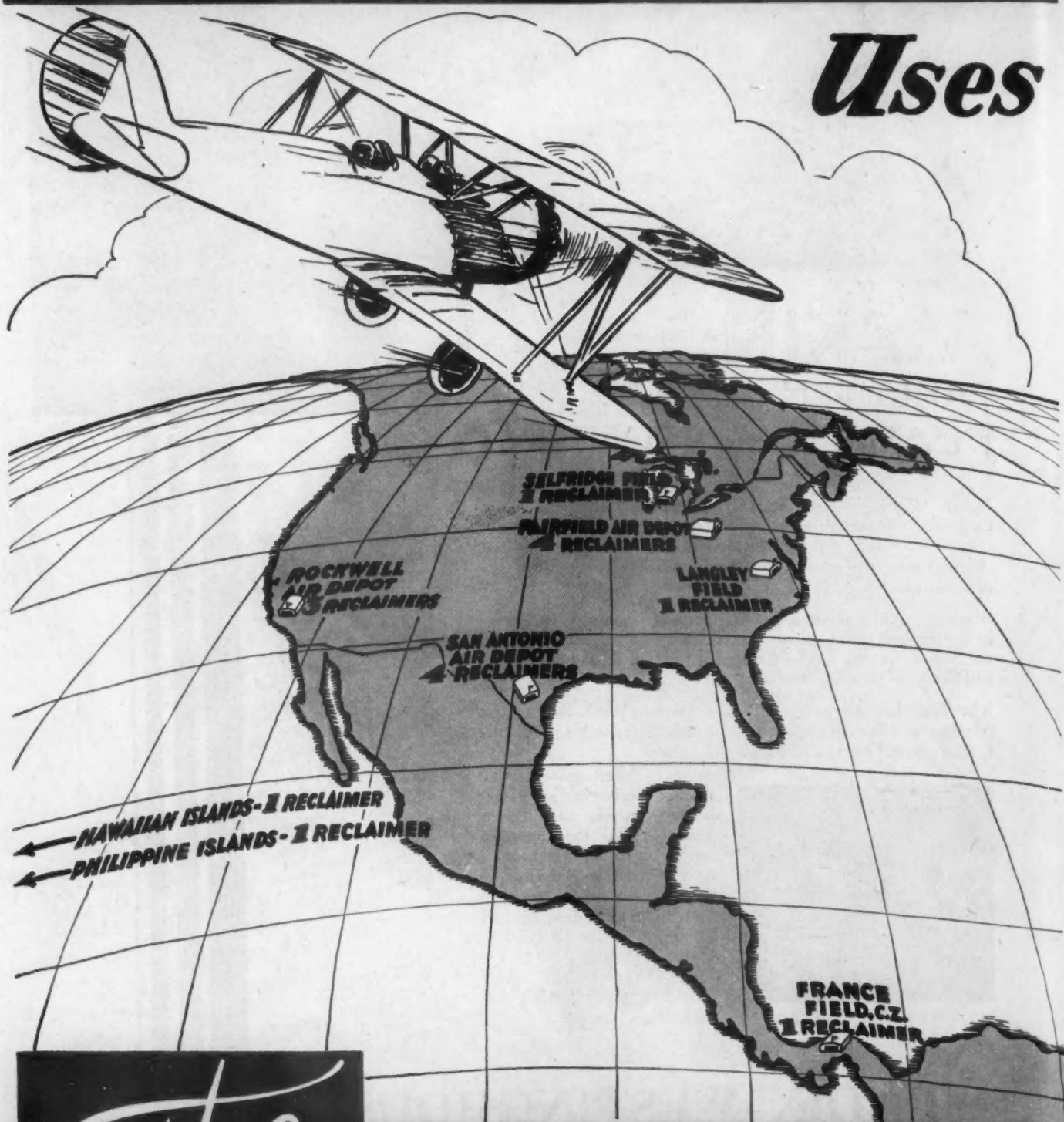
6270-A

# BENDIX - WESTINGHOUSE Automotive AIR BRAKES



# THE ARMY'S

## Uses



# The

# SKINNER

# AIR ARMADA

## Skinner Renewed Oil

**T**HOUSANDS of dollars are spent to train our army pilots—men who must frequently jeopardize their lives in the Army's Air Armada. From an economic, as well as an humanitarian standpoint, every precaution is taken to guard against engine failure.

*Yet costs must be considered, lowered where possible.*

Viewed in this light it is doubly significant that at Government Flying Fields, Skinner Oil Reclaimers are used to recondition oil for Army airplane engines.

No higher tribute can be paid to the reliability, efficiency and economy of Skinner Renewed Oil!

*Oil itself* doesn't lose its lubricating qualities. Dilution and dirt impair its efficiency.

Exhaustive tests by the U. S. Bureau of Standards and by the Air Service proved that the Skinner Oil Reclaimer removes every vestige of contamination.

A high quality lubricant is recovered that, in every respect, is the equal of fresh oil—at a cost only a fraction of the price of new oil.

Surely Skinner Renewed Oil meeting rigid Government requirements will satisfy demands of truck fleet operators.

Engines in trucks traveling hundreds of thousands of miles every year, under all conditions, long have been efficiently lubricated with Skinner Renewed Oil—with *Maintenance costs surprisingly low.*

If you operate a fleet of five or more trucks the Skinner Oil Reclaimer can save you money. Write for information. Advise us of the number of gallons you drain per year, your electric current rate, and the approximate cost of new oil.



Part of the  
Shipment  
for  
Uncle Sam's  
Air Service

### Skinner Automotive Device Co., Inc.

2229 Dalzelle, Cor. 14th, Detroit, Mich.

# OIL RECLAIMER



## Dumping Time-15 Seconds

There are two phases to the dumping of every load of material—(1) getting the truck in position to dump—and (2) the actual raising of the body.

Dump equipment that makes it possible to get rid of the load quicker, and also saves a lot of wear and tear on the truck itself is a real investment.

Heil-equipped trucks need only to back into any position—even with one rear wheel as much as 18" lower than the other and the Heil Twin Cylinder Hoist will dump the load. This is a feature exclusive with Heil. It is not necessary to tear the "guts" out of the truck by pulling out of a soft fill and then racing back again on to level ground before the hoist can be used.

Once the truck is in position the Twin Cylinder Hoist has more power and speed with which to raise the body. Heil Hoists dump loads in practically one-half the time required by other hoists of the same lifting capacity.

Ask the truck operator who has used Heil and other makes of hoists. He will tell how his Heil-equipped jobs are always the first ones out of the dump—how the drivers do not have to race their trucks, and yet they get back to the shovel or aggregate plant first—and how they can make more trips—have fewer repairs on the trucks themselves.

*Every Heil Hoist carries a written two year guarantee.*

# THE HEIL CO.

MILWAUKEE

CHICAGO

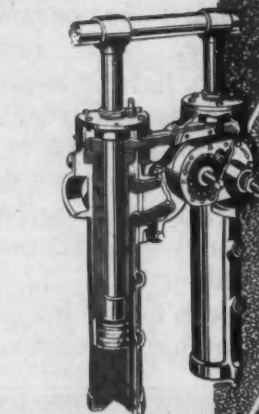
DETROIT

BRANCHES:  
NEW YORK  
35 DISTRIBUTORS

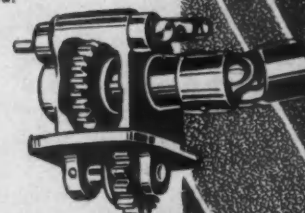
PHILADELPHIA

WISCONSIN

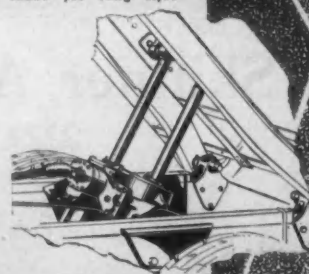
BOSTON



*The Heil Twin Cylinder Hydraulic Hoist is compact, self-contained, no piping. Oil under pressure passing through channels cast into the walls is shown in solid red.*



*There is a Heil heavy duty power takeoff for every make and model of truck built. The idler gear and roller bearing construction make for long life.*

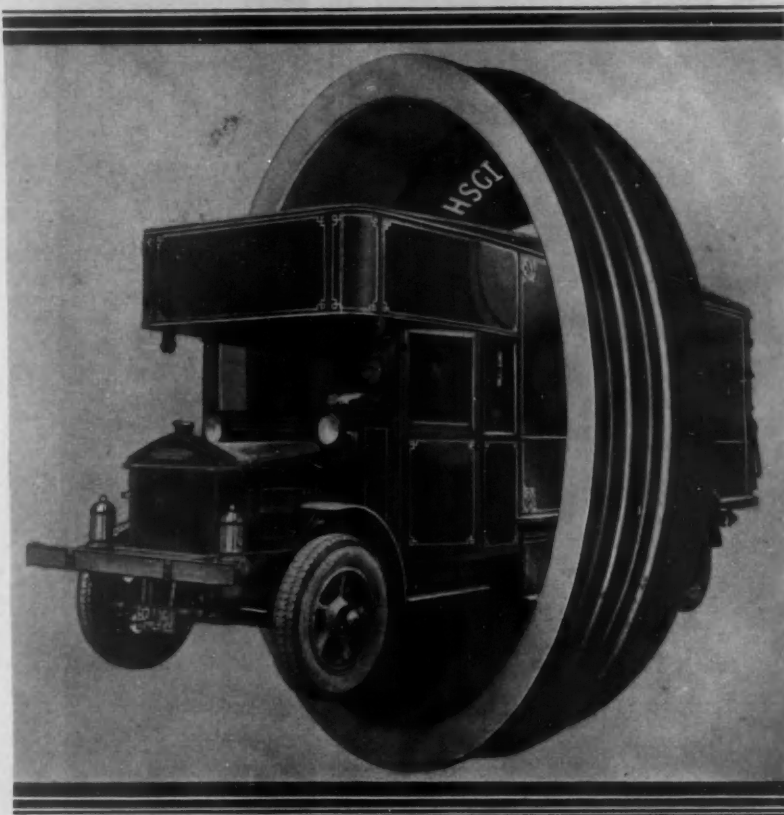


*The Heil Hoist mounts at the strongest point of the chassis frame—above the rear axle—the body cannot tip over backwards because it is secured to the hoist pistons.*



# HUNT-SPILLER AIR FURNACE GUN IRON BRAKE DRUMS

**EFFECTIVE  
BRAKES  
DESPITE  
ROAD  
LOAD  
AND  
WEATHER  
CONDITIONS**



H.S.G.I. Brake Drums deliver positive, quick and dependable braking action constantly whether the roads are rough or the hills steep.

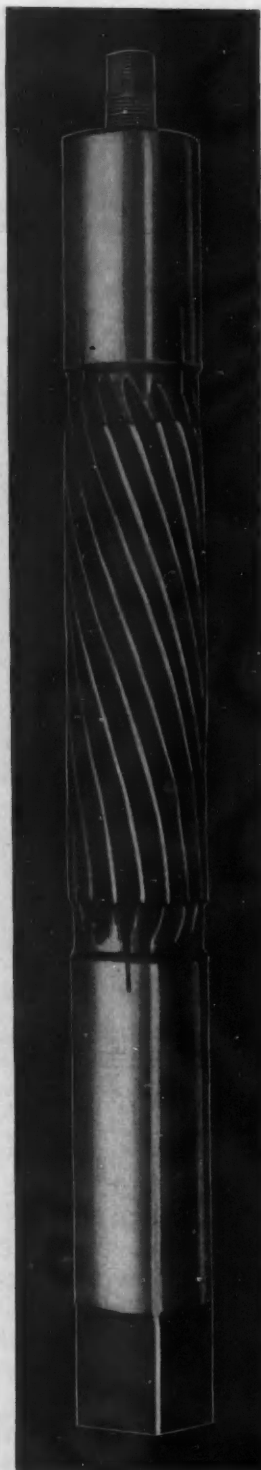
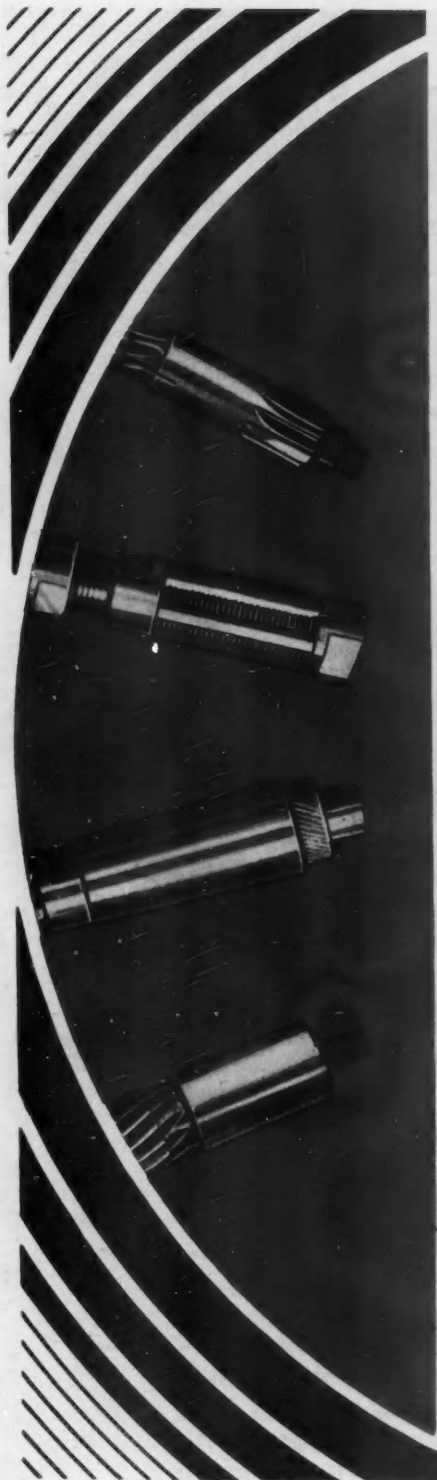
HUNT-SPILLER AIR FURNACE GUN IRON BRAKE DRUMS are economical, in that they have shown thousands of truck owners an unusually longer record of brake drum

wear—fewer brake adjustments and brake lining replacements—an actual saving in operating expense, due to fewer shop-layovers, more hours on the road.

HUNT-SPILLER GUN IRON is a century old material adapted especially to resist wear at high temperatures. Replace with H.S.G.I. drums. Write for more information.



**HUNT-SPILLER MFG. CORP**  
J. G. Platt, Pres. and Gen. Mgr. V. W. Ellet, Vice-Pres.  
Office and Works  
383 Dorchester Avenue  
South Boston, Mass.



## LET THE BRUBAKER EXPERT DEMONSTRATE THIS NEW SERVICE

Maintenance department managers and truck service managers will find just as much opportunity in the Brubaker Cutting Tool Reconditioning Service as thousands of servicemen already have!

Brubaker offers two methods to reduce expense.

Headquarters for the reconditioning of reamers are being established in all parts of the country. A service operated by a trained expert in the shop of the leading automotive jobbers. *This is the first Brubaker method—extending the life of the cutting tools you now own.*

The second method is to offer you a line that includes all cutting tools. Reamers, taps, dies, valve reseaters and special tools—singly and in complete sets. A line based upon 50 years of manufacturing experience. Stamped with quality. *A line that offers you more service for the dollar you invest.*

While the Brubaker Factory Trained Expert is in your city, at your request, he will stop at your shop and check over your tools with you. Write us.

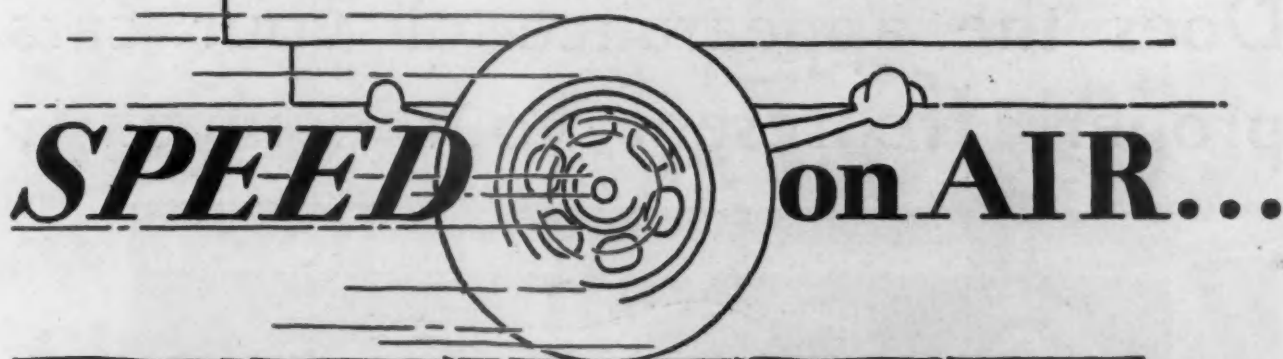
W. L. BRUBAKER & BROS. CO.

Millersburg

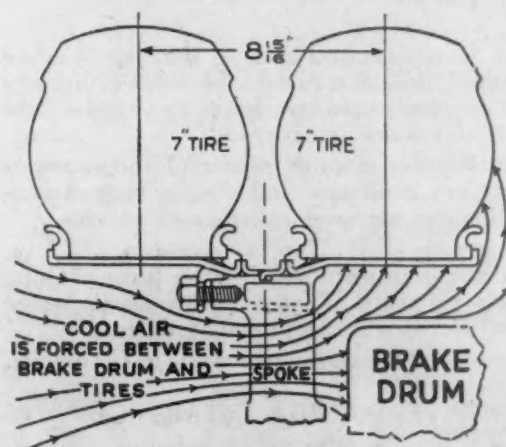
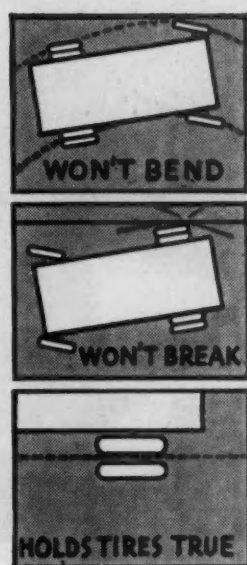
Penna.



# BRUBAKER



## SAFELY with Dayton Duals



Are Last Summer's Tire Troubles Threatening You Again? Dayton spokes are so designed that strong air currents are forced between rim and brake drum—no air is wasted between the tires. Tires run cool and give greater mileage. Scientific tests prove it.

*The Commercial Car Journal  
and Operation & Maintenance*

**D**UAL pneumatic tires accelerate the movement of trucks and buses and make possible the carrying of more and heavier loads.

Speed, however, can mean trouble and expense if you do not have wheels that are positively true-running, cool-running and have the brute strength necessary to endure high-speed strains and shocks.

Speed with safety—that's what you want. And Dayton Duals give it to you. Light in weight—remarkably strong—they will not bend or crack or lose their positive true alignment—actual service in all fields constantly proves it. Center line over hub eliminates bearing failure. Complete rim support prevents the slightest rim slippage. No extra wheel is necessary with Dayton. Only a tire and rim need be carried as a spare. No wheel repairs. The first cost of a set of Daytons is the last and only cost... If you will investigate, you will find it will pay to change over your present equipment to Dayton Dual Pneumatic Steel Wheels. Distributors in principal cities throughout the country will give you quick, complete change-over service on Dayton Duals. Specify Daytons on your new trucks and buses.

**Dayton Brake Drums** are superior in Strength and Wearing Qualities. The metal, made by a special process in electric furnaces, has an even distribution of small, uniform grains of graphitic carbon. Dayton Brake Drums last longer, stay smooth, and save brake linings.

**THE DAYTON STEEL FOUNDRY CO., DAYTON, OHIO**

*We have acquired the Tigerloy Brake Drum Division of the Massillon Steel Castings Company of Massillon, Ohio*

# Dayton

The Mark of a Good Wheel

May, 1930



# Does the appearance of your cars properly represent your company?



## A Weaver Washer soon pays for itself

Cleanliness costs little—but to neglect periodic cleaning may prove expensive in many ways.

Your delivery cars and trucks are traveling advertisements. You can't afford to have them dirty because they really represent you—in the eyes of the public—and may hurt your business.

Equally important—a thorough cleaning at regular intervals helps keep any car or truck out of the shop, by helping keep dirt and grit off the chassis and out of the running gear. It also facilitates careful inspection and discovery of defects that might cause serious trouble on the road.

Weaver Equipment for every need—Washing, Lubrication, Towing, Tire Service, Wheel Alignment, Brake Service, Headlight Testing

It is easy to understand why a Weaver Washer is so popular. One man can do the work ordinarily requiring several men washing by hand—and quicker, better work is assured.

A Weaver Washer is quiet, powerful and economical. It is very compact—and simple, rugged construction insures years of satisfactory service.

Supplied in two sizes: No. 1—one gun, 1½ h.p., 6 gallons per minute; No. 2—two guns, 3 h.p., 12 gallons per minute. Tank to assure ample water supply and kerosene attachment if desired.

Ask your Jobber Salesman or write us for details.

**WEAVER MANUFACTURING COMPANY**

Springfield, Illinois, U. S. A.

Weaver Canadian Co., Ltd.

Chatham, Ont.

This Service Book  
Tells How—



Get your copy now  
—it's free!

# Wood Dumping Equipment Choice of Dump Truck Men



Excavating demands equipment with unusual strength and stamina. Here you see Wood Hoists and Bodies on the job.

**W**OOD welcomes the dump truck user who buys on a dollar-and-cents basis—who demands proof to check the important features of design, construction and operation.

Dump truck men who demand efficiency and economy favor Wood Hoists and All-Steel Dump Bodies. They *know* that Wood dumping equipment is ruggedly built for severe service — enabling them to

haul and dump loads for profit.

As pioneers in serving dump truck users, we have developed hoists and steel dump bodies which, today, stand out as engineering achievements.

Permanent value is better than a temporary bargain. That's the reason Wood Dumping Equipment is the choice of dump truck men *who know*. Write for Bulletin 200.

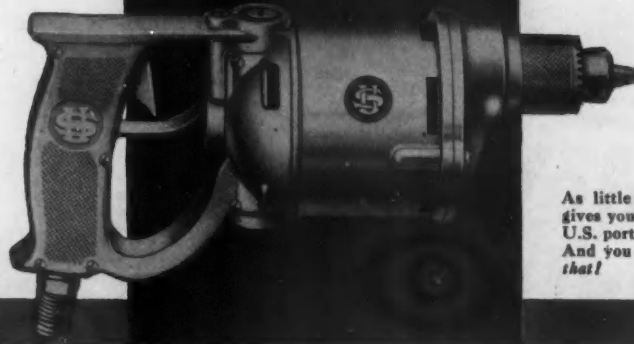


WOOD HYDRAULIC HOIST & BODY CO., DETROIT, MICH.

BRANCHES AND DISTRIBUTORS IN PRINCIPAL CITIES

# WOOD

## HOISTS & BODIES



As little as \$24.00  
gives you a genuine  
U.S. portable drill!  
And you can't beat  
that!

# 1930

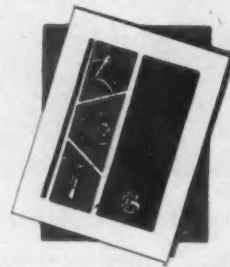
## WILL REWARD WISE SPENDERS

# *Make your Shop Make Money!*

The men who know the true meaning of "Economy" are going to make the profits this year. *Luxury is out!* Foolish spending is out! BUT—the man who *spends to keep from spending* is going to have a better than average year.

Running a fleet of trucks or buses at a profit is no job for a narrow-gauge brain this year. The job needs men who know how to avoid the purchase of new trucks or buses by keeping the old ones running *at a profit*. The older the units, the more maintenance they will need. Maintenance costs money, too, and a lot of men who think they're smart are going to lose in the shop the money they save in the office!

Spend some money wisely for electrically-driven tools; cut the labor cost on every job; keep your rolling stock out on the road where it can make money for you—and 1930 will be a pleasurable year. Let the other fellow have the headaches!



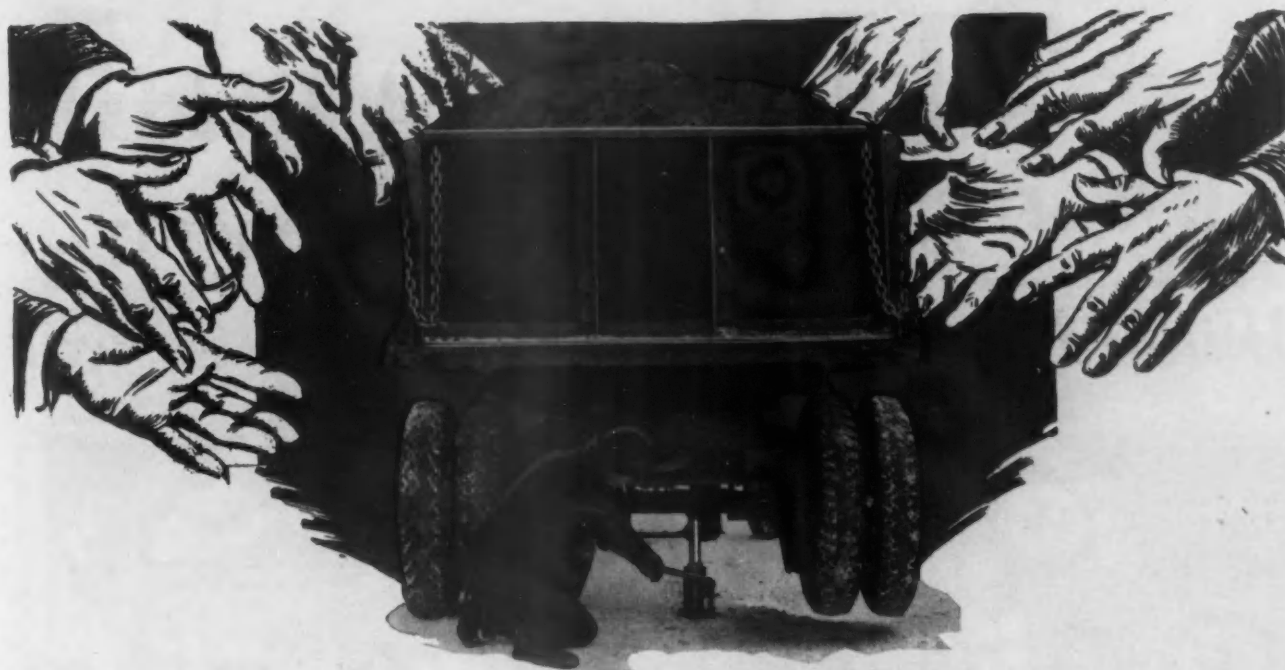
This booklet is free to you. It is NOT a lot of advertising for U.S. Tools—but it does contain a wealth of reminders for the man who intends to make a profit from his shop.

## UNITED STATES ELECTRICAL TOOL CO.

CINCINNATI, OHIO, 2455 W. Sixth St., and Branches in — Atlanta — Boston — Chicago —  
Cleveland — Dallas — Denver — Detroit — London — Los Angeles — Minneapolis — New York —  
Philadelphia — Pittsburgh — St. Louis — San Francisco — Seattle — Syracuse — Toronto — Winnipeg

EXPORT REPRESENTATIVES: Westinghouse International Co., 150 Broadway, New York





## IT MULTIPLIES HAND PRESSURE into Tons of Power



### Dealers

Sell a Blackhawk to every truck owner and with every truck. 1 to 75 tons capacity. A size for every automotive, shop and industrial need — and each a one-hand lifter. For lifting, bending, straightening, pressing, with micrometer accuracy.

**B**lackhawk Hydraulic Jacks multiply hands by multiplying the work a hand can do.

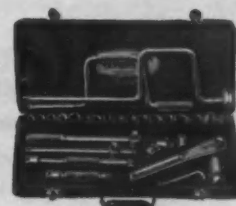
Finger pressure lifting! Automatic lowering! The heaviest loaded truck is just a one-hand lift with a Blackhawk Hydraulic. No more unloading—no more scrambling under!

Drivers want these one-hand lifters. Truck owners want these time-saving, tonnage-boosting jacks that permit running tires to the last mile—without worry. Truck manufacturers speak for these quicker jacks, too. They are standard equipment on many of the heavier trucks and truck and bus fleets.

See your dealer. Mail coupon for catalog.

BLACKHAWK MFG. COMPANY . . . MILWAUKEE  
Also world's largest manufacturer of socket wrenches

# BLACKHAWK HYDRAULIC JACKS



### Speed Up Repairs

Blackhawk socket and open-end wrench sets for every need. Every tool guaranteed. Will not rust, break, spread or round out. Enduring chrome-vanadium steel, brilliant chromium finish. Every tool with the famous Blackhawk features that make all jobs easier.

BLACKHAWK MFG. COMPANY, Dept. C. O. Milwaukee, Wis.

- ☐ Send truck, shop, and industrial jack literature.  
☐ Send truck, shop, and industrial wrench literature.

Name.....

Address.....

# HOT WEATHER

is a battery's worst enemy ..

*Willard batteries are fortified against heat*



**H** EAT is responsible for more battery trouble and expense than severe winter weather. When a battery gets overcharged on a hot day, its plates often warp or buckle. A deformed plate crowds the cell — its sharp edges or high spots press hard into the insulation and eventually wear through it. A short circuit results and the battery fails.

This will not happen in a Willard Thread-Rubber Battery, however. Its insulation is made of durable rubber, penetrated by thousands of tiny wicks and reinforced with hard rubber ribs. It makes the most dependable battery you can buy.

**Willard** STORAGE BATTERIES  
CLEVELAND · OHIO



# From Production Line Across the Continent

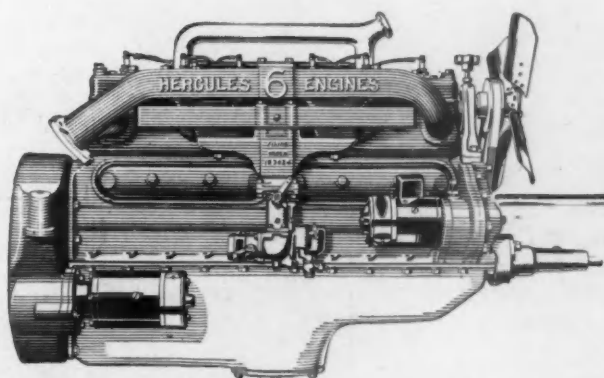


Driven off the production line and broken in enroute, a Hercules-Powered Moreland truck was piloted from Los Angeles, California, to the east on an initial trip of 2475 miles.

Fourteen hours a day for seven days—at an average speed of 25 miles per hour—the sturdy Moreland was driven across southwestern deserts and over snow-covered roads of the north. Throughout the entire journey, the Hercules Engine never once required attention—a typical example of Hercules performance.

Hercules Engines are advanced in design—simply and ruggedly built. That is why thousands of Hercules Engines in trucks and buses have rolled up 100,000 miles and more, with no attention beyond routine inspection.

HERCULES MOTORS CORP., Canton, Ohio, U. S. A.  
West Coast Branch: Los Angeles, Cal. Mid-Continent Branch: Tulsa, Okla.



*The Commercial Car Journal  
and Operation & Maintenance*

## HERCULES ENGINES

May, 1930



SERIES

25



20 YEARS OF MAKING BETTER TRUCKS DISTINGUISH

## NEW SCHACHT DELUXE MODELS

1930 is a year when—more than ever—motor trucks are being bought on a basis of true merit—of value that can be proven. That explains the instant popularity of the new SCHACHT DeLUXE Series. Here are strength—power—speed—and BEAUTY—at a price which can't be duplicated for value. Here are trucks that look superior—and are superior!

Dealers! Some valuable territory open. Write or wire for details.

### NOTE THESE FEATURES

New Cowl Lights  
Specially Designed Headlights  
New Full Crown Fenders  
Balloon Tires  
Fish Plates on Frame  
Many other important advancements in engineering and design.

New DeLuxe Series 25—Capacity 3 Tons—Six-cylinder motor, rubber mounted— $3\frac{3}{4}$ " bore— $4\frac{1}{2}$ " stroke—68 horsepower—7-bearing crankshaft—nickel iron cylinders—Timken full-floating bevel gear rear axle—multiple disc clutch—heavy duty 4-speed transmission—7" pressed steel frame,  $\frac{1}{4}$ " thick—fish plates—Ross cam and lever steering—four-wheel brakes, Lockheed with B-K booster—helper springs—radius rods— $20 \times 8.25$  heavy duty balloon tires with duals rear, on Budd wheels.

Chassis price includes full electrical equipment, special paint job, balloon tires, speedometer, and bumper. Radiator, headlights, cowl lights, and bumper chromium plated. Weight of chassis and cab 5600 lbs. Optional wheelbases.

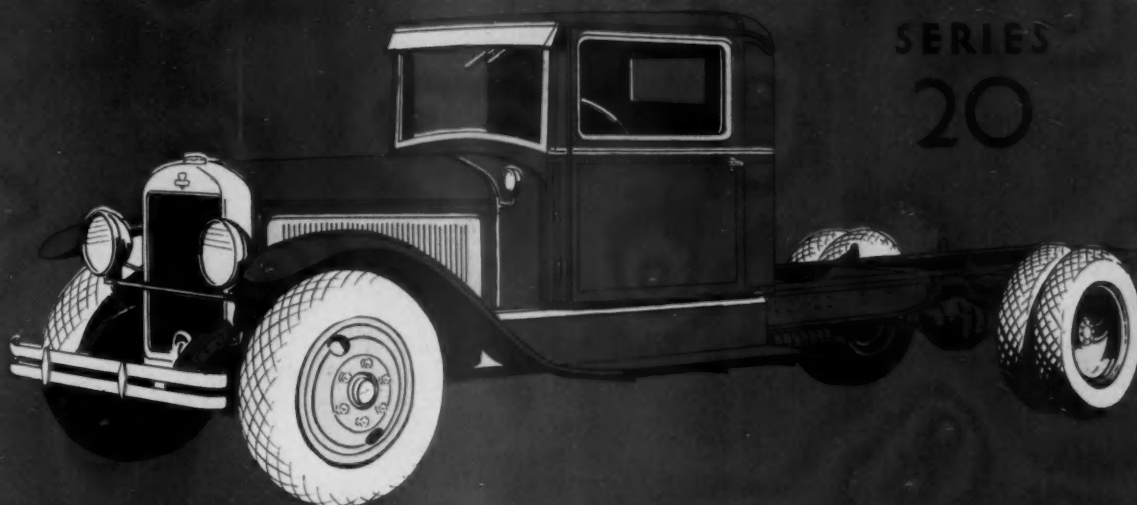


DELUXE  
SERIES

THE LEBLOND-SCHACHT TRUCK CO., CINCINNATI, OHIO

Successful Motor Truck Manufacturers for Over 20 Years.

# SCHACHT



SERIES  
20

1930's SUPER VALUE—IN BEAUTY—IN PERFORMANCE!

## THE NEW SCHACHT DeLUXE MODELS



DeLUXE  
SERIES

The instant preference shown by dealers and owners for the NEW SCHACHT DeLUXE MODELS proves again that nothing succeeds like true value, real merit!

The new SCHACHT DeLuxe Models were designed to mark a new advancement in beauty, in performance—in modern motor truck value! The reception they are receiving speaks for itself. The line is complete—capacities from 1½ to 7½ tons.

Dealers! The SCHACHT franchise offers great selling opportunities. Write or wire for details.

New DeLuxe Series 20—Capacity 2 Tons—Six-cylinder motor, rubber mounted—3⅝" bore—4⅝" stroke—66 horsepower—7-bearing crankshaft—nickel iron cylinders—Timken full-floating bevel gear rear axle—multiple disc clutch—heavy duty 4-speed transmission—6" pressed steel frame, ¼" thick—fish plates—Ross cam and lever steering—four-wheel brakes, Lockheed—helper springs—20 x 7.50 heavy duty balloon tires with duals rear, on Budd wheels.

Chassis price includes full electrical equipment, special paint job, balloon tires, speedometer, and bumper. Radiator, headlights, cowl lights, and bumper chromium plated. Weight of chassis and cab 4500 lbs. Optional wheelbases.

### NOTE THESE FEATURES

New Cowl Lights  
Specially Designed  
Headlights  
New Full Crown Fenders  
Balloon Tires  
Fish Plates on Frame  
Many other important  
advancements in engineering and design.

THE LeBLOND-SCHACHT TRUCK CO., CINCINNATI, OHIO

Successful Motor Truck Manufacturers for Over 20 Years.

# SCHACHT

SERIES  
25



20 YEARS OF MAKING BETTER TRUCKS DISTINGUISH

## NEW SCHACHT DELUXE MODELS

1930 is a year when—more than ever—motor trucks are being bought on a basis of true merit—of value that can be proven. That explains the instant popularity of the new SCHACHT DeLUXE Series. Here are strength—power—speed—and BEAUTY—at a price which can't be duplicated for value. Here are trucks that look superior—and are superior!

Dealers! Some valuable territory open. Write or wire for details.

### NOTE THESE FEATURES

New Cowl Lights  
Specially Designed  
Headlights  
New Full Crown Fenders  
Balloon Tires  
Fish Plates on Frame  
Many other important  
advancements in engi-  
neering and design.

New DeLuxe Series 25—Capacity 3 Tons—Six-cylinder motor, rubber mounted— $3\frac{3}{4}$ " bore— $4\frac{1}{2}$ " stroke—68 horsepower—7-bearing crankshaft—nickel iron cylinders—Timken full-floating bevel gear rear axle—multiple disc clutch—heavy duty 4-speed transmission—7" pressed steel frame,  $\frac{1}{4}$ " thick—fish plates—Ross cam and lever steering—four-wheel brakes, Lockheed with B-K booster—helper springs—radius rods—20 x 8.25 heavy duty balloon tires with duals rear, on Budd wheels.

Chassis price includes full electrical equipment, special paint job, balloon tires, speedometer, and bumper. Radiator, headlights, cowl lights, and bumper chromium plated. Weight of chassis and cab 5600 lbs. Optional wheelbases.



DELUXE  
SERIES

THE LEBLOND-SCHACHT TRUCK CO., CINCINNATI, OHIO

Successful Motor Truck Manufacturers for Over 20 Years.

# SCHACHT





1930's SUPER VALUE—IN BEAUTY—IN PERFORMANCE!

## THE NEW SCHACHT DeLUXE MODELS



DeLUXE  
SERIES

The instant preference shown by dealers and owners for the NEW SCHACHT DeLUXE MODELS proves again that nothing succeeds like true value, real merit!

The new SCHACHT DeLuxe Models were designed to mark a new advancement in beauty, in performance—in modern motor truck value! The reception they are receiving speaks for itself. The line is complete—capacities from 1½ to 7½ tons.

Dealers! The SCHACHT franchise offers great selling opportunities. Write or wire for details.

New DeLuxe Series 20—Capacity 2 Tons—Six-cylinder motor, rubber mounted—3 3/8" bore—4 5/8" stroke—66 horsepower—7-bearing crankshaft—nickel iron cylinders—Timken full-floating bevel gear rear axle—multiple disc clutch—heavy duty 4-speed transmission—6" pressed steel frame, 1/4" thick—fish plates—Ross cam and lever steering—four-wheel brakes, Lockheed—helper springs—20 x 7.50 heavy duty balloon tires with duals rear, on Budd wheels.

Chassis price includes full electrical equipment, special paint job, balloon tires, speedometer, and bumper. Radiator, headlights, cowl lights, and bumper chromium plated. Weight of chassis and cab 4500 lbs. Optional wheelbases.

### NOTE THESE FEATURES

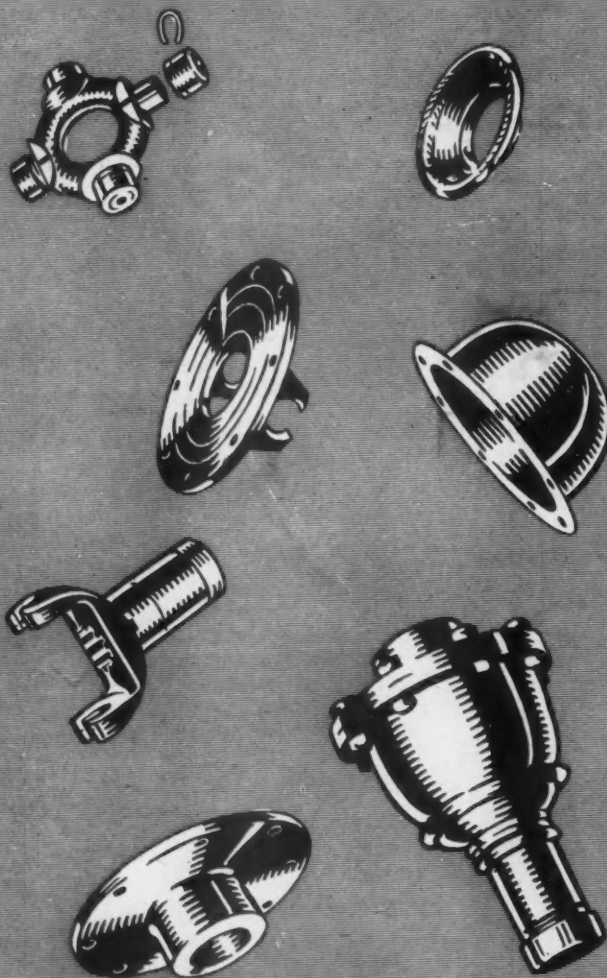
New Cowl Lights  
Specially Designed  
Headlights  
New Full Crown Fenders  
Balloon Tires  
Fish Plates on Frame  
Many other important  
advancements in engineering and design.

THE LeBLOND-SCHACHT TRUCK CO., CINCINNATI, OHIO

Successful Motor Truck Manufacturers for Over 20 Years.

# SCHACHT

# GENUINE SPICER PROPELLOR SHAFT PARTS



YOU  
GET  
SPICER  
PERFORMANCE  
ONLY

When you replace  
with Genuine Spicer  
Joints and Parts

## ASSOCIATED Spicer COMPANIES

**BROWN-LIPE**  
CLUTCHES and  
TRANSMISSIONS

**BROWN-LIPE GEAR CO.**  
SYRACUSE NEW YORK

May, 1930

**SALISBURY**  
FRONT and REAR  
AXLES

**SPICER MANUFACTURING CORP.**  
TOLEDO OHIO

**SPICER**  
UNIVERSAL  
JOINTS

**PARISH PRESSED STEEL CO.**  
READING PENNA.

**PARISH**  
FRAMES and  
STAMPINGS

*The Commercial Car Journal  
and Operation & Maintenance*

# A Statement backed by more than Five Years' Use of Air Springs

*5 Years  
ago*

ESTABLISHED 1889



**MONARCH STORAGE CO.**

OFFICE 3870-72 LANCASTER AVE.

PHILADELPHIA

MEMBER  
NATIONAL FURNITURE WAREHOUSEMEN ASSOC.  
PENNSYLVANIA WAREHOUSEMEN ASSOC.

TWO WAREHOUSES  
MOTOR VAN EQUIPMENT

October 1, 1925

The Cleveland Pneumatic Tool Co.,  
Cleveland, Ohio.

Gentlemen:

Please look our order for one Heavy Duty Gruss Air Spring to be placed on our #4 van, also one Transport model of Gruss Air Spring to be placed on our #2 van.

You will no doubt be pleased to receive these repeat orders.

Having used these Springs on our other vans, we believe them to be very satisfactory, and to our minds, economic in the long run by saving wear and tear on motors, van bodies and tires, and also eliminates the heavy strain on the chauffeurs' arms on long distant runs, which we deem very essential in making careful deliveries of our customers' furniture.

We wish to express our opinion that these springs, in our minds, eliminate a great deal of expense in running trucks, and also helps to give comfort to our men in long distant runs.

We beg to remain

Yours respectfully,  
MONARCH STORAGE COMPANY

*Chas. G. DeLong Mgr.*

(signed) CHARLES G. DE LONG

Mgr.

CGD:MK

*Today*

ESTABLISHED 1889



**MONARCH STORAGE CO.**

OFFICE 3870-72 LANCASTER AVE.

PHILADELPHIA

MEMBER  
NATIONAL FURNITURE WAREHOUSEMEN ASSOC.  
PENNSYLVANIA WAREHOUSEMEN ASSOC.

TWO WAREHOUSES  
MOTOR VAN EQUIPMENT

February 20, 1930

The Cleveland Pneumatic Tool Co.,  
Cleveland, Ohio.

Gentlemen:

Replying to your inquiry of the 18th instant, relative to the service rendered by the Gruss Air Springs, we are pleased to say that they have been giving entire satisfaction.

We have been one of the early users of these Springs and from time to time have equipped our vans, until now they have been adopted as standard equipment with our company.

By experience we have learned that they save the engine as well as reduce to a minimum the vibration in the van, which eliminates nicks and scratches, particularly on long distance removals.

We, therefore, take pleasure in recommending the use of Gruss Air Springs to any company in our line, whose reputation depends on safe delivery of fine furniture.

Yours respectfully,

MONARCH STORAGE COMPANY

*Chas. G. DeLong Mgr.*

Chas. G. DeLong, Mgr.



# CLECO AUTOMOTIVE PRODUCTS

MANUFACTURED BY THE CLEVELAND PNEUMATIC TOOL CO., CLEVELAND, OHIO

The Commercial Car Journal  
and Operation & Maintenance

May, 1930



# A spring tonic for your business



## Money-Savers ... Patronage-Builders ...

**SPRING!** And with it comes the need for improved delivery service to keep pace with the season's enlivened business activity.

As replacements or additions, Fargo Trucks are tonic-like in their ability to increase hauling efficiency. For proof that one will add to your prestige and lower your costs, see,

inspect and drive the type that fits your needs.

Admire the custom-built smartness and dash of these modern, *Chrysler-styled* trucks. In the role of moving representative for you, one is sure to impress present and prospective customers with the high character of your business. By actual test on the road, you

can quickly prove the performance-ability of a Fargo. In speed, in pick-up, in road-ability and in handling ease you will find it a typical *Chrysler-built* product.

See and drive a Fargo. Appraise it critically. You may rely on it for money-saving and business-building ability—this Spring and for many seasons to come.

### PRICES

FARGO ½-TON PACKET—Chassis \$595; Panel \$845; Screen \$845; Canopy \$835; Sedan \$945.

FARGO ¾-TON CLIPPER—Chassis \$725; Panel \$975; Screen \$975; Canopy \$965; Sedan \$1075.

FARGO 1-TON FREIGHTER—Chassis \$795. The complete line of bodies, of outstanding appearance and construction, includes panel, stake, canopy, express and platform.

All prices f. o. b. factory. Fargo dealers extend the convenience of time payments.

# FARGO

CHRYSLER MOTORS PRODUCT

May, 1930

The Commercial Car Journal  
and Operation & Maintenance

GOOD ENOUGH TO

**FORGET**

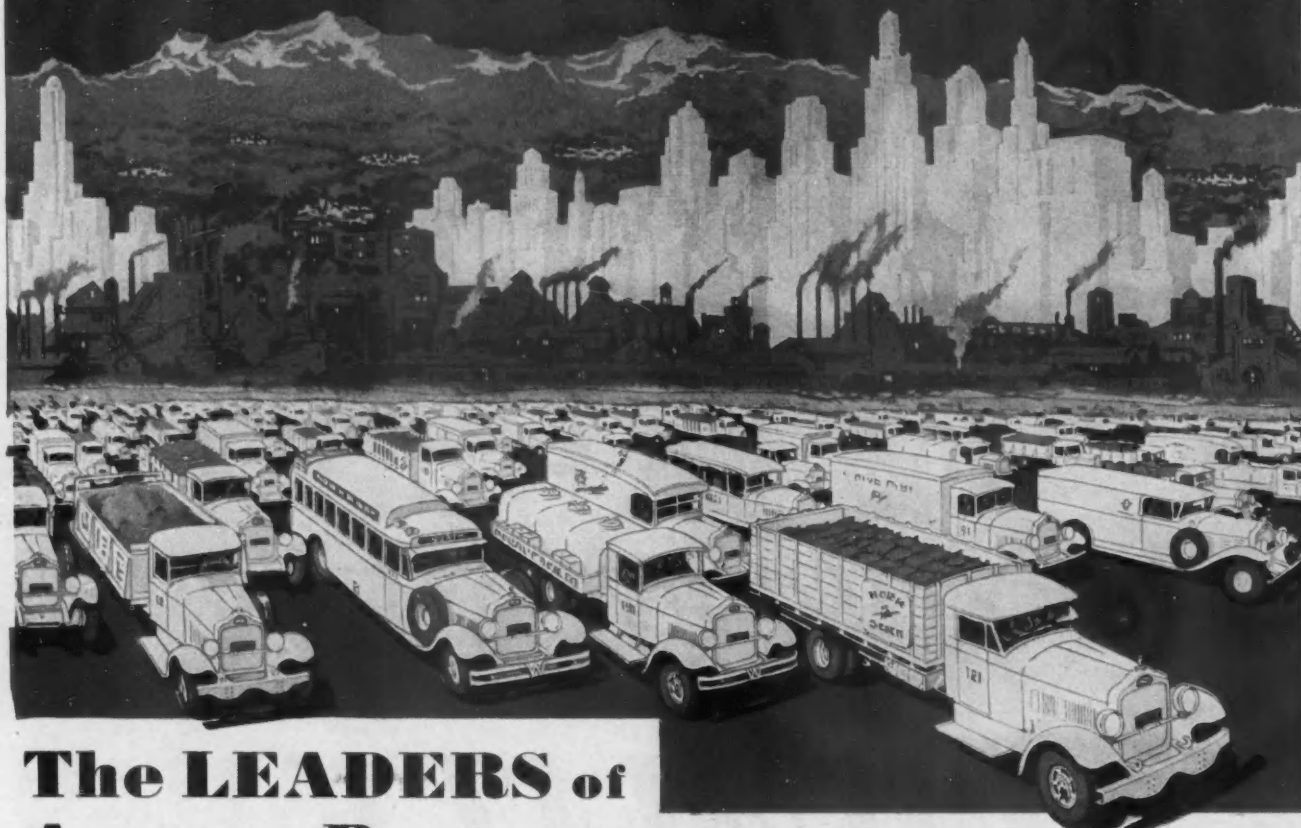
AFTER  
*They are installed*

**QUALITY**  
**BRAND PISTON RINGS**

*Keep that  
Youthful  
Performance*

# 20<sup>TH</sup> ANNUAL Roll Call

## WHITE FLEETS OF TEN OR MORE



### The LEADERS of American Business build their transportation fleets with WHITES

The great White Roll Call published annually for the past twenty years, again tells the greatest transportation story ever told—1408 of the country's foremost owners operating 49,250 Whites in fleets of ten or more—2739 more Whites than

last year—97 additional owners who are now operating fleets of ten or more—and not listed are tens of thousands of additional owners operating fleets of less than ten, or single Whites. *The White Company, Cleveland.*

# WHITE

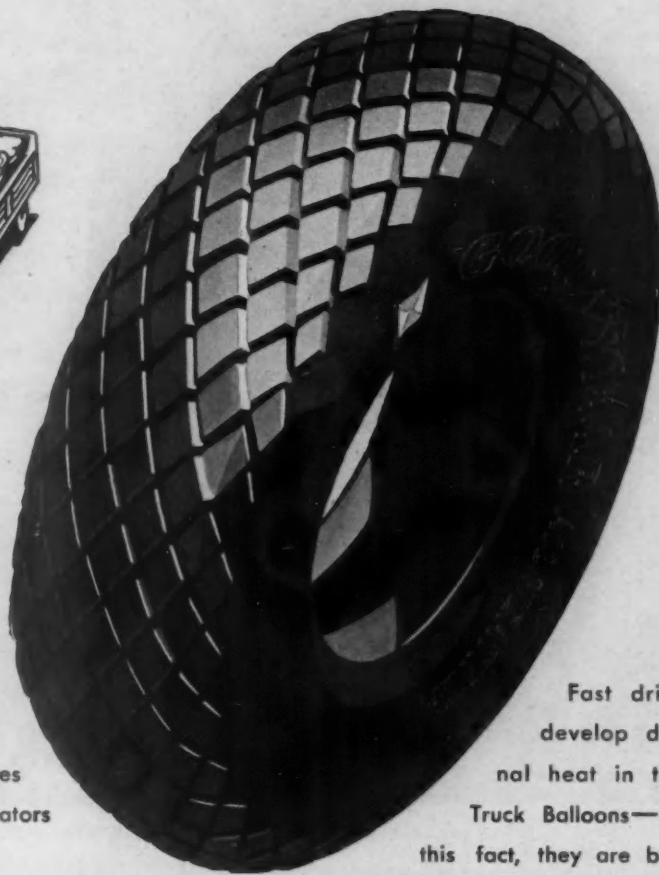
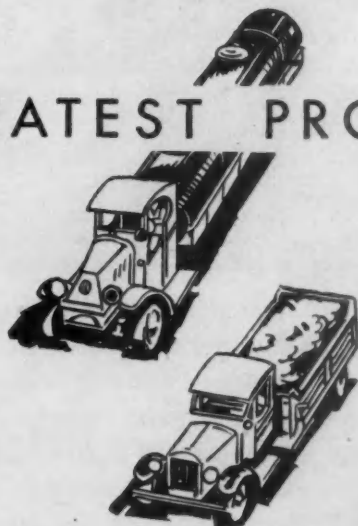
A COMPLETE LINE OF FOUR AND SIX CYLINDER  
**TRUCKS**  
**BUSSES**



WITH THESE NEW **BALLOONS**

**GOODYEAR** ENDS ONE OF THE

GREATEST PROBLEMS OF TRUCKING



**H**OW to travel long distances at modern high speeds — without paying a tremendous premium for tires — that is the problem that trucking operators have been facing.

And here is Goodyear's answer—the Goodyear Truck Balloon Tire.

It does, now, for the fast truck, what balloon tires did for the passenger car. It provides the generous cushion required for speed—it gives extra traction—but more than all this, it is cool running.

Fast driving does not develop destructive internal heat in these Goodyear Truck Balloons—and because of this fact, they are bringing tire bills

back to levels as low or lower than they were in the days of slow-moving trucks.

Get in touch with a Goodyear Truck Tire Service Station Dealer now regarding change-overs on your present trucks. On your new trucks, specify Goodyears—they are offered by leading truck manufacturers as optional equipment.

THE GREATEST NAME

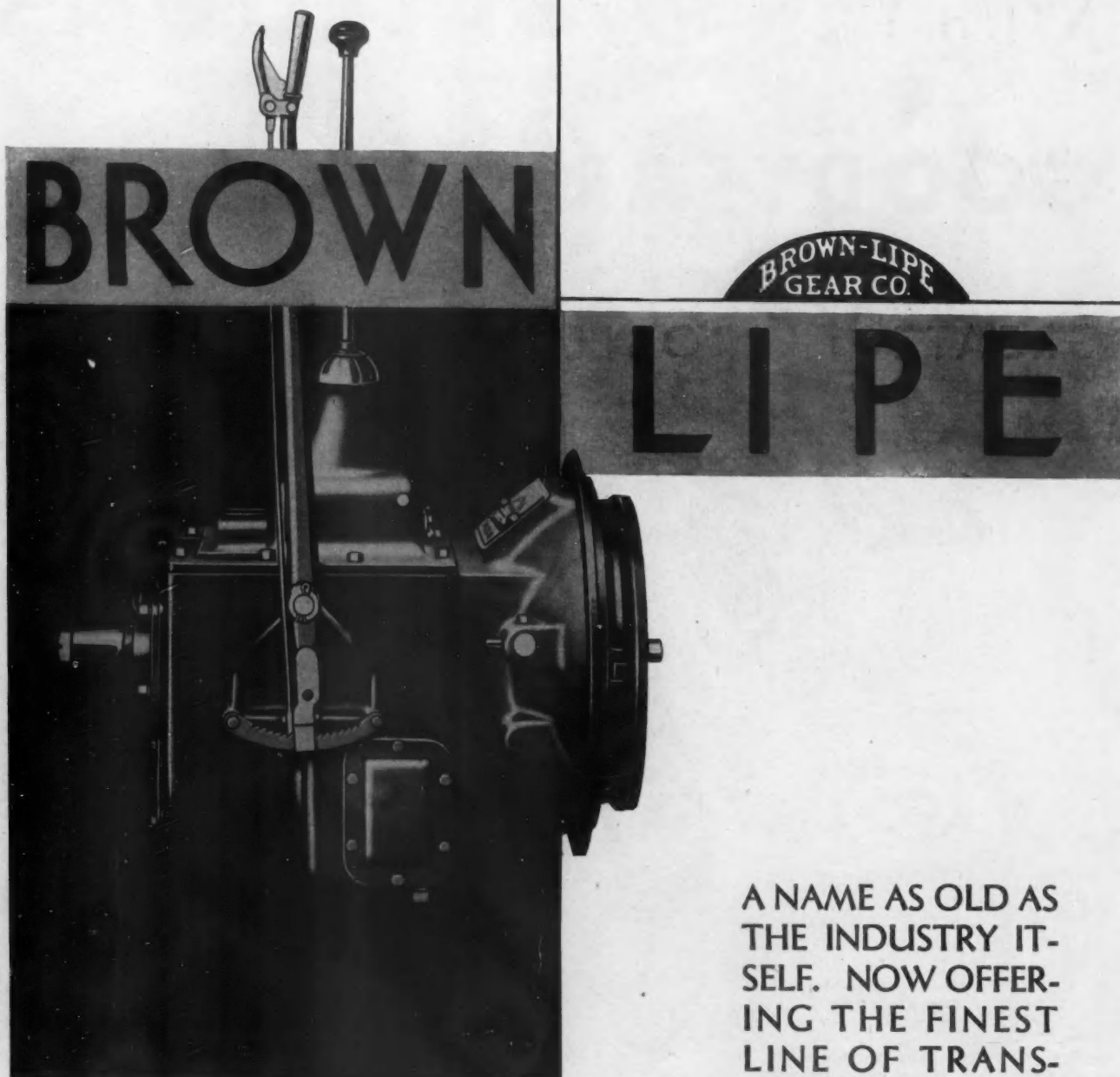
IN RUBBER

**GOODYEAR**

MORE TONS ARE HAULED ON GOODYEAR TIRES THAN ON ANY OTHER KIND

*The Commercial Car Journal  
and Operation & Maintenance*

*May, 1930*



**No. 554** Four speeds forward, one reverse. For 3 and 4-ton trucks. Ball bearings throughout except rear mainshaft and pilot which are roller. Can be fitted with Brown-Lipe Single Plate or Multiple Disc Clutch at your option.

A NAME AS OLD AS THE INDUSTRY ITSELF. NOW OFFERING THE FINEST LINE OF TRANSMISSIONS AND CLUTCHES IN ALL ITS LONG HISTORY.

## ASSOCIATED *Spicer* COMPANIES

**BROWN-LIPE  
CLUTCHES and  
TRANSMISSIONS**

**BROWN-LIPE GEAR CO.**  
SYRACUSE NEW YORK

**SALISBURY  
FRONT and REAR  
AXLES**

**SPICER MANUFACTURING CORP.**  
TOLEDO

**SPICER  
UNIVERSAL  
JOINTS**

**OHIO.**

**PARISH  
FRAMES and  
STAMPINGS**

**PARISH PRESSED STEEL CO.**  
READING PENNA.

May, 1930

*The Commercial Car Journal  
and Operation & Maintenance*

# 62% WERE REPEATS

SIXTY-TWO out of every one hundred orders for FWD trucks placed last year came from owners of FWD trucks. Thirty-eight per cent came from new friends. And the total demand for FWD's increased 46% over the year before!

These statements, we believe, contain one of the biggest stories regarding what owners think of the FWD. Sixty-two per cent! You have often heard that "The proof of the pudding is in the eating." We go one better and say: "The proof of the pudding is how one feels three hours after having eaten it." Likewise with trucks. It is not how one feels when purchasing a truck, but how he feels three months or three years afterward. How does he feel after he has had the truck long enough to have tried it out to his own satisfaction as to power, speed, ease of operation. Does the truck stand up after several years of service? How many breakdowns have occurred? How many things have gone wrong for no apparent reason? Was there something to this truck's "quality you cannot see"? What kind of service does the truck give after 25,000 miles, 50,000 miles, or 100,000 miles?

No one is in a better position to find out what a truck will do than the owner who has operated it. He can't be influenced with words or pictures. No need to tell him what the truck he uses can do, *he knows*. If he isn't getting satisfaction he is going to get rid of that make of truck and look for something else. If he thinks his trucks are giving him what he has a right to expect in the way of performance and economy, he is going to order more of the same make. A customer may be "sold" the first time, but after that *he buys*.

Naturally we are proud to state that sixty-two out of every one hundred orders for FWD trucks placed in 1929 came from owners of FWD's.

You can sell FWD Trucks to new fields . . . now is the time to get in on the growing market for FWD trucks. There are still a few good territories open.

*Write for Dealer proposition today.*

**The Four Wheel Drive Auto Company**  
CLINTONVILLE, WISCONSIN  
Canadian Factory: Kitchener, Ontario

Drive through front and rear wheels.

Manufactured by the oldest and largest manufacturers of four wheel drive trucks in the world.

Steer as easily as your pleasure car.

A general service truck which adapts itself to special needs.

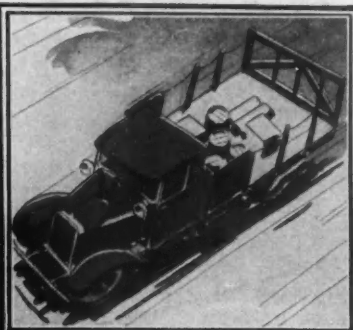
Furnished in 2 to 10 ton sizes. Including six wheel and tractor trucks.

# FWD TRUCKS



# Smooth...Smooth...Smooth

## even at 200,000 miles



### NEVER SCORE

At last! Release from scored, pitted brake drums. Gunite Drums stay smooth and true—all their life.



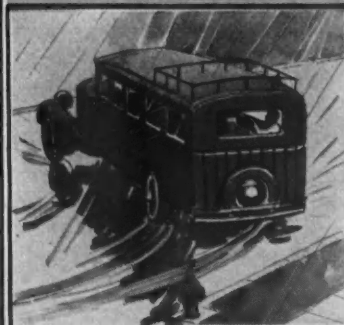
### NEVER SHRED LININGS

Worn drums mean torn, shredded linings. Linings last 3 to 5 times longer on Gunite Drums because they stay smooth.



### SAVE ADJUSTMENTS

Worn drums throw brakes out of adjustment. Gunite Drums save labor and lost service time by staying smooth and true.



### SAVE TIRES

Grabbing, dangerous brakes! Gunite Drums always give linings a smooth, even braking surface.

ON city bus service . . . hardest of all tests for brakes, brake drums, brake linings . . . Gunite Drums have made and are making these outstanding service records—over 200,000 miles and *still smooth*—on busses averaging 5 stops to the mile!

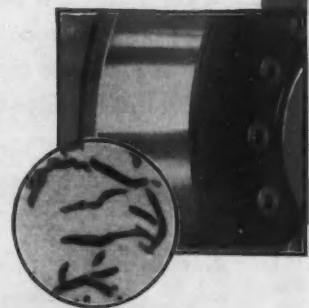
How can Gunite Drums last so long? How can they escape *scoring*, and *distortion* in today's grinding, punishing traffic? Because Gunite is a special, secret-process metal whose very structure defies wear. Because Gunite gets smoother, smoother, *smoother* until its surface is almost like plate glass—under braking friction that would ruin an ordinary drum. Gunite Drums don't roughen. Their high carbon content makes them extremely slow to heat. Flakes of graphite evenly distributed throughout the metal does away entirely with any tendency to roughen or score.

Get Gunite Drums for every bus or truck you own. They're available on new equipment—and for replacement on all but a few rare makes of vehicles. Hundreds of fleet operators swung over to the new Gunite Drums in the last few months. They'll solve all those brake drum troubles you've been having—and pay for themselves in saved linings alone. Ask for the new Gunite Catalog—sent free on request.

THE GUNITE CORPORATION  
Rockford, Illinois

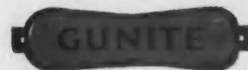
### WHY GUNITE IS SMOOTH

In the circle is an actual microphotograph of the graphite particles scattered evenly throughout Gunite. With a pearly matrix similar to that of tool steel, Gunite is hard without the "stickiness" found in ordinary steel. That, in a nutshell, is why Gunite stays so hard and smooth under braking friction.



# GUNITE

## BRAKE DRUMS



(A-154)

# A SMOOTH POSITIVE STOP

## *with little effort!*

Come to a quick stop if necessary—or bring your bus or truck to a gradual, smooth stop . . . this feature of the Tru-Stop Brake makes it dependable when you need it in emergency, or when service brakes go bad.

So perfect is the braking action, and so true to the touch is the Tru-Stop Brake, that you have a real emergency brake as well as an efficient parking brake.

Any ordinary driver can take up natural lining wear—or replace the shoes if need be, in a few minutes. Tru-Stop Brakes are self-equalizing—non-self energizing—and will not chatter.

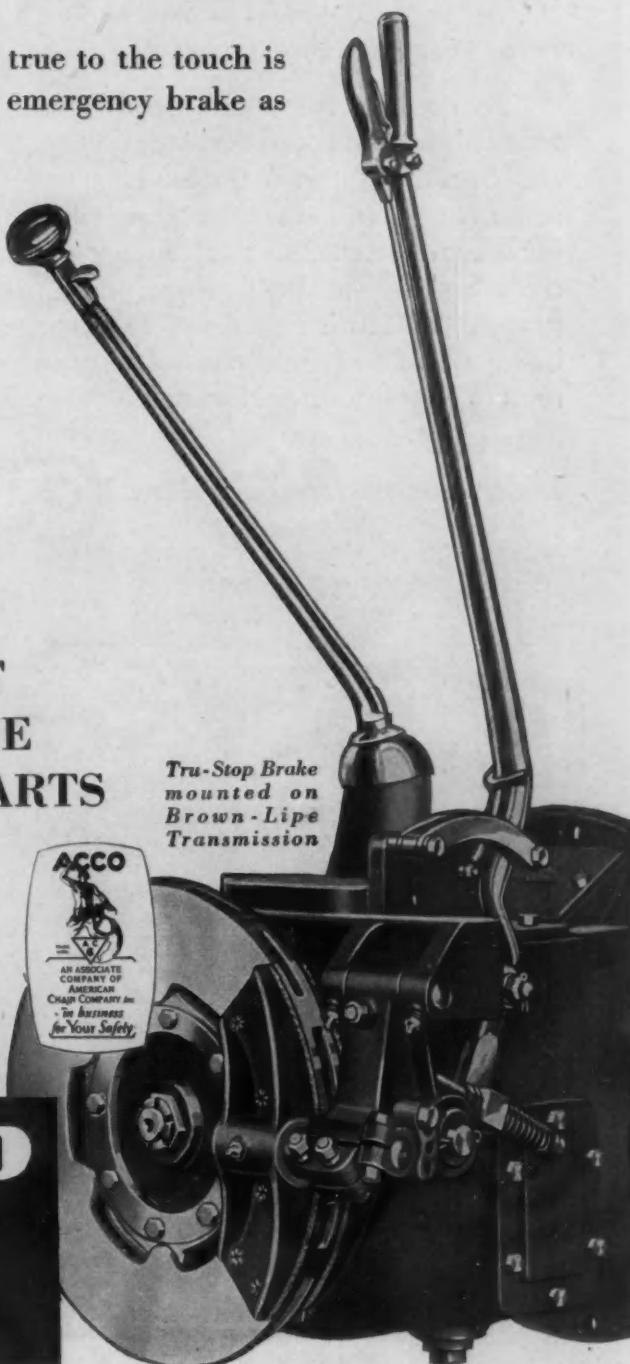
**WON'T GRAB  
POSITIVE ACTION  
POSITIVE RELEASE  
DISSIPATES HEAT  
2 MINUTES TO ADJUST  
20 MINUTES TO RELINE  
INTERCHANGEABLE PARTS**

Standard make transmissions have provisions for mounting TRU-STOP Brakes.

For complete information address:

**AMERICAN CABLE COMPANY, Inc.**  
Automotive Division  
Bridgeport, Conn. 3-111 General Motors Bldg., Detroit, Mich.

# TRU-STOP BRAKE



Tru-Stop Brake  
mounted on  
Brown-Lipe  
Transmission

# The Hahn Got to Market FIRST !!

The driver who carries produce direct to the large city markets will appreciate what it means to get to market first. It's the early bird who catches the big profit in the produce field. With a Hahn or Selden, the fruit and vegetable grower can get to market FIRST, get the best prices for the day, and be well on his way home before the stragglers come trailing in.

To dealers we want to say our standard trucks have the speed and stamina to give users the "break" on price in the food market. Perhaps some users need special equipment for certain perishable products. For those we can furnish a custom job at little more than production prices. Selden Trucks and Hahn Trucks are balanced in body and chassis to give your customers maximum performance from the completed unit.

*Dealers investigate the Selden Hahn franchise*

## Specifications

### MODEL 47 D

Total gross weight 19,500 lbs. (Recommended payload 4 tons).

Frame lengths behind cab, 9 ft., 12 ft., 14 ft. and 16 ft.

Engine—6-cylinder, valve-in-head type with 7-bearing crankshaft. 81½ horsepower. Stromberg carburetor.

Transmission—Unit with motor, 5 speeds forward, 2 reverse.

Rear Axle—Full-floating, double reduction type.

Brakes—Service, Lockheed hydraulic on front and rear wheels operated thru vacuum booster. Emergency, Tru-Stop disc on propeller shaft.

Tires—Heavy-duty pneumatic, 36 x 8, single front duals rear.



**Selden Hahn Motor Truck Corporation**  
ALLENTOWN, PENNA.

**Selden**



**Hahn**





# Every inch a CHAMPION



**Y**OU'LL recognize that "class" which marks the real champion, just the minute you see it work out—the Timken Six-Wheel Unit.

There's sheer strength—to carry immense loads.

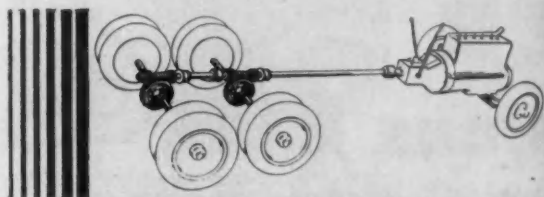
There's fast, shifty foot-work and perfect control—in the flexibility that fits all rough roads and ground; in the greatly increased traction of four drive-wheels; and in the four-wheel or even six-wheel brakes.

There's superb avoidance of punishment—in the softened impacts of wheels on the ground, easing the pounding on all working parts.

And as for punch?—look at cost records to see that operating and maintenance costs per ton-mile are taking such a beating as only a champion can give.

It's logical—for the really big job—the TIMKEN SIX-WHEEL UNIT.

THE TIMKEN-DETROIT AXLE COMPANY  
DETROIT, MICHIGAN



# TIMKEN SIX WHEEL UNIT

A FOUR-WHEEL WORM DRIVE UNIT FOR SIX-WHEEL VEHICLES

*The Commercial Car Journal  
and Operation & Maintenance*

May, 1930

# Again an innovation by **FULLER**

## 5 SPEEDS FORWARD 2 REVERSE

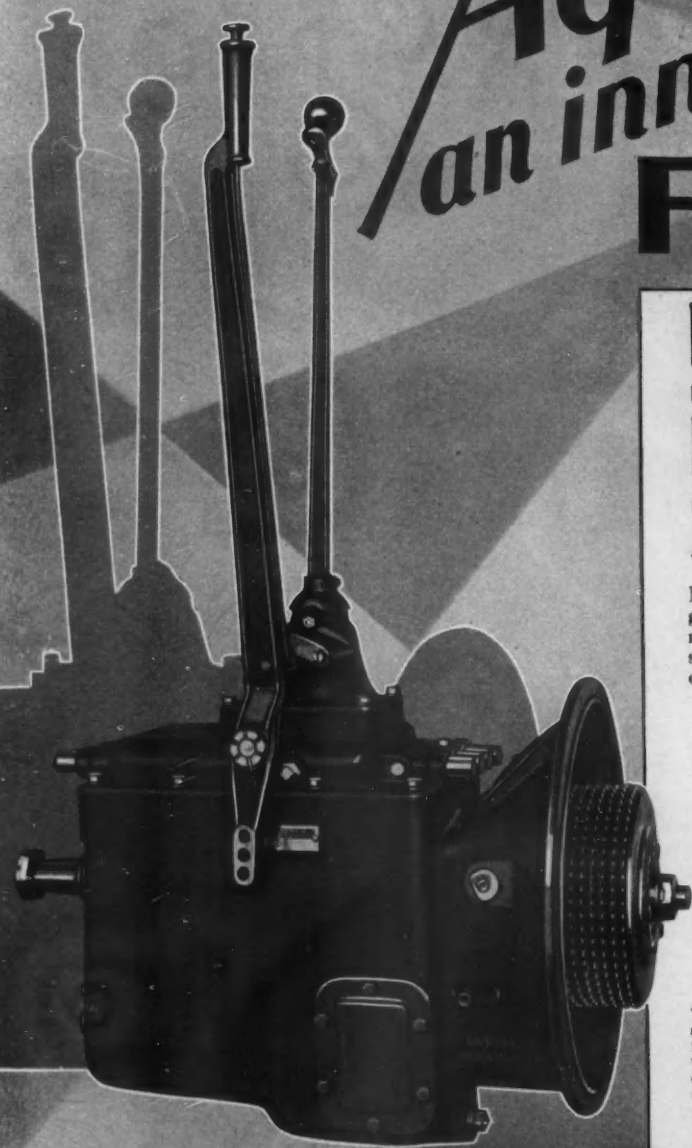
Mud holes, road embankments and steepest grades are easily conquered with *power* multiplied by the *low gear ratio*. Increased speed is available when the load is rolling on a level pavement.

### Specifications

Speeds .....	{ 5 Forward 2 Reverse	
Load rating .....	4 Tons	
Chassis weight .....	8500 lbs. max.	
Engines .....	{ 450 cu. in. piston displacement max. (6 cyl.)	
Clutch .....	{ 16 facing multiple disc—8½ ins. dia.	
	VU Ratios	VUOG Ratios
1st	8.07	7.07
2nd	4.79	4.20
3rd	2.87	2.04
4th	1.76	28% over gear.
5th	1.0	1.0
1st Rev.	8.62	7.55
2nd Rev.	4.73	4.14

This new unit power plant transmission by Fuller answers the demand from the heavy duty truck field for a more rugged 5 speed transmission. You will want the details. We will gladly mail them or our engineer will call without obligation to discuss your requirements.

**FULLER & SONS MFG. COMPANY**  
Division Unit Corporation of America  
Bankers Building Milwaukee, Wisconsin



## **FULLER** STANDARD AND SPECIAL **TRANSMISSIONS**

FROM ROUGH BILLET



TO FINISHED PRODUCT

# <<< "WE FIND THAT EVEREADY PRESTONE

IS THE VERY BEST ANTI-FREEZE, AND THE  
MOST ECONOMICAL IN THE LONG RUN"



SOME of our most valued endorsements of Eveready Prestone have come from fleet operators of many years' experience—men who regard this anti-freeze as an asset to their business and as the one completely satisfactory winter motor protection. Here is a letter from Mr. George Bell of Bell Bros., Syracuse, New York:

"We have been established in business over fifty years and operate a fleet of fourteen trucks. Most of these cars travel over the entire eastern states and average about forty thousand miles a year. During this period of time we have tried all kinds of anti-freeze and find that Eveready Prestone is the very best and the most economical in the long run. Motors may be kept at

normal operating temperature on all kinds of hauls day after day without any fear of losing one drop of Eveready Prestone."

Eveready Prestone will not boil off. One supply added to a *clean, tight* cooling system will protect a machine all winter through any amount of warm and cold weather operation. Because Eveready Prestone is added only once, it proves to be a very economical investment over a winter's use.

Eveready Prestone does not contain either alcohol or glycerine. It possesses *all* the properties pointed out by the National Bureau of Standards as essential for an



Eveready Prestone does not contain any alcohol or glycerine.

\* \* \*

The Eveready Hour, radio's oldest commercial feature, is broadcast every Tuesday evening at nine (New York time) from WEAJ over a nation-wide N. B. C. network of 30 stations.



Thoroughly tested and 100% approved by the Contest Board of the American Automobile Association.

## EVEREADY PRESTONE


(TRADE-MARK REG.)  
FOR PREPARATION OF THE  
PERFECT ANTI-FREEZE

anti-freeze. Give your machines the protection they deserve this winter. See that they are properly prepared for winter with clean, leak-proof cooling systems and a supply of Eveready Prestone. Write today for information and prices. Get copy of *Eveready Prestone Service Manual*.

NATIONAL CARBON CO., INC.

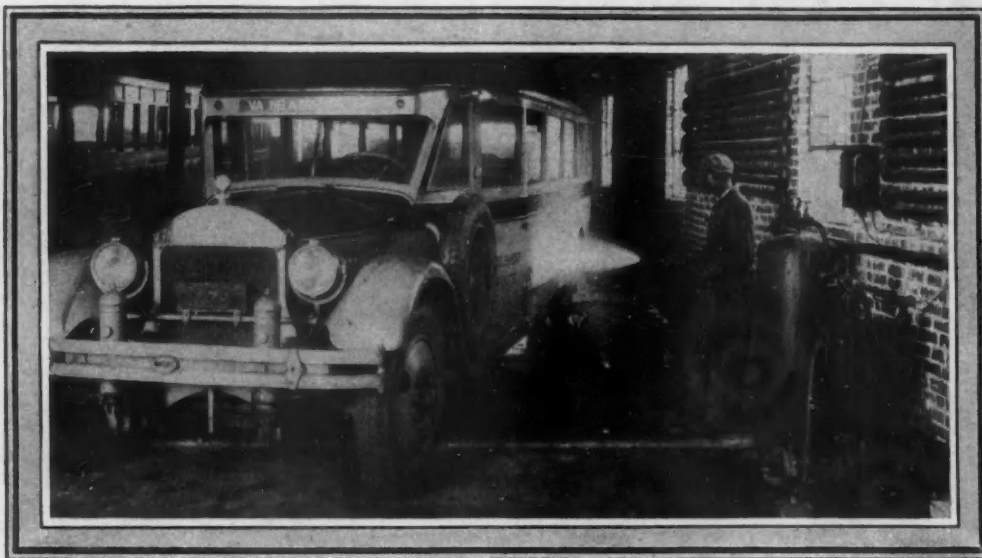
General Offices: New York, N. Y.

Branches: Chicago      Kansas City  
New York      San Francisco

Unit of Union Carbide  and Carbon Corporation



## The Curtis Car Washer will save the cost of five men!



Frequent and *thorough cleaning* and washing of busses is of major importance in attracting and holding patronage. It permits *closer inspection* which promotes safety and repair economy.

*Quick* washing and cleaning of busses is of major importance in holding down costs and making a profit.

Curtis Car Washers fit in with these needs. They are specifically built to do the best possible job in the shortest possible time. Actual records show that a Curtis Car Washer will displace the work and save the cost of 5 men.

Curtis is the only firm manufacturing both compressed air and hydraulic types.

The Curtis compressed air washer not only washes more cars cleaner than any other power washer, but provides a complete cleaning service. Operates spraying and cleaning attachments and pneumatic tools, furnishes air for tire inflation. Equipped with the new Curtis Timken-Equipped Duplex Compressor.

The Curtis hydraulic washer is a low-priced, self-contained outfit, designed and built by Curtis specifically to meet car washing conditions. Triplex, 3 cylinder, slow speed pump—Curtis manufacture throughout, fully enclosed, flooded and direct self-oiling. Automatic pressure governor. Special alloy steel, rust-resisting, double heat treated nozzle discs. Three sizes.

# CURTIS

**CURTIS**  
Pneumatic Machinery  
Company  
*St. Louis*

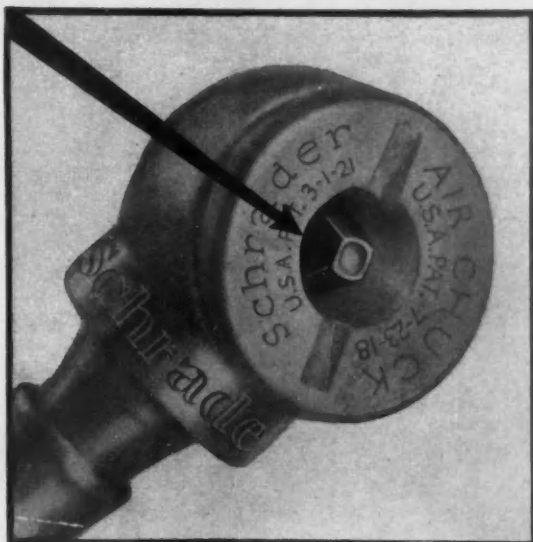
Curtis Pneumatic Mchy. Co.,  
1929 Kienlen Ave., St. Louis—518H Hudson Term., N. Y.

Please send catalog and information about [State product you are interested in]

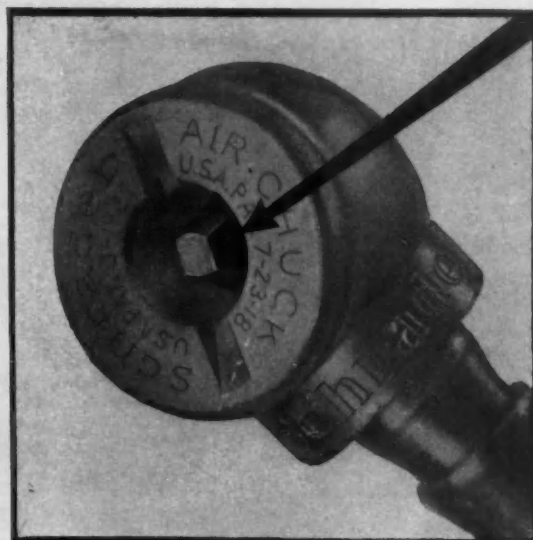
Name \_\_\_\_\_

Address \_\_\_\_\_

Curtis catalog describing both types of Curtis Car Washers as well as the complete Curtis Automotive line will be sent on request. Check the coupon and mail.



*Left*—This is the old-style chuck pin with the dimple in the end. It is slow in inflating certain types of valves.



*Right*—Here you see the new, smooth-end chuck pin—which gives better inflation on all types of valves. The coupon will bring you a supply FREE.

# FREE!

## These New *Improved* Chuck Pins

### Satisfactory Inflation for *all* Valves

*Send coupon below for enough to supply your air lines—FREE*

**D**O your air lines operate satisfactorily on all types of valves? Do they inflate some types slower, or show chuck leakage when chuck is applied to the valve stem?

If your Schrader chucks have the old, dimpled type pins, you may find that some valves take the air much slower than others and cause the chuck to leak. Now you can get satisfactory inflation on *all* types of valves simply by changing your chuck pins.

Without charge, you can secure from

*Be sure it's a Schrader—Look for the name.*

# Schrader

Makers of Pneumatic Valves Since 1844

Tire Valves • Tire Gauges

A. Schrader's Son, Inc., a new type chuck pin. The illustration at the right clearly shows this new chuck pin design.

Look at your air chucks. If the pins are old style, mail the coupon at once. It will bring you, without cost, enough new pins to modernize your air lines.

There is no obligation whatever. This free service is part of the Schrader practice of improving Schrader products by every means. A. Schrader's Son, Inc., Brooklyn, Chicago, Toronto, London.

### FREE COUPON

A. SCHRADER'S SON, INC.,  
470 Vanderbilt Avenue, Brooklyn, N. Y.  
Gentlemen: Please send me, free, enough new chuck pins to supply all my chucks.

Name .....

Address .....

City .....

State .....

I operate ..... air lines.  
(number)



## ....SOMETIMES WE WISH WE HAD A GADGET!

—An automatic hat lifter for pre-occupied gentlemen—a mechanical hand for wind-blown umbrellas—anything would do as long as we could soar the heights in words.

But we're fated. Fated to stick to the barest of facts. The Leece-Neville Voltage Regulator is a good product. It keeps your batteries constantly in good condition, preventing costly tie-ups and dissatisfied customers.

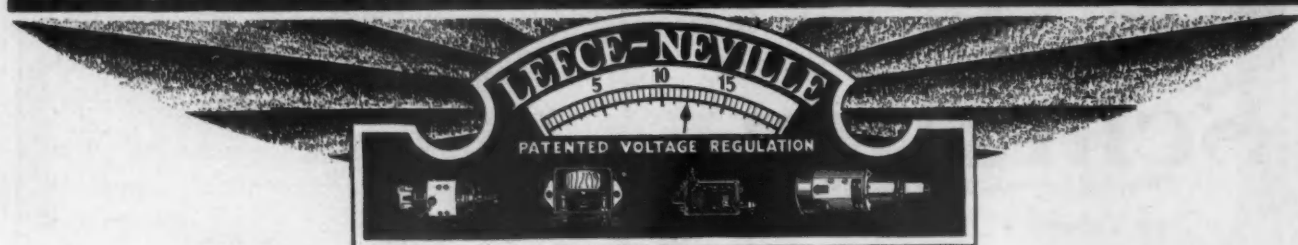
That's our story. All we can do is to keep plugging away at it month after month, year in and year out. *The Leece-Neville Voltage Regulator is a good product. It keeps your batteries constantly in good condition.* There are satisfied Leece-Neville users in your territory and we can prove it at the same time you ask us to prove our story on Voltage Regulation.

### Voltage Regulation Minimizes Electric Maintenance

- 1 Battery cannot be overcharged.
- 2 The battery is charged only at the correct rate for its state of charge.
- 3 Battery will operate longer without requiring replenishing of electrolyte.
- 4 Life of battery greatly prolonged.
- 5 Lights can be operated direct from generator.
- 6 Loose connections will not cause lamp bulbs to burn out.
- 7 Makes most economical generator system.
- 8 Any Leece-Neville Voltage Regulated Generator can be used without battery.
- 9 Lamp life greatly prolonged.
- 10 Motor coaches fitted with Leece-Neville voltage regulated generators provide passengers with satisfactory illumination and safe transportation.

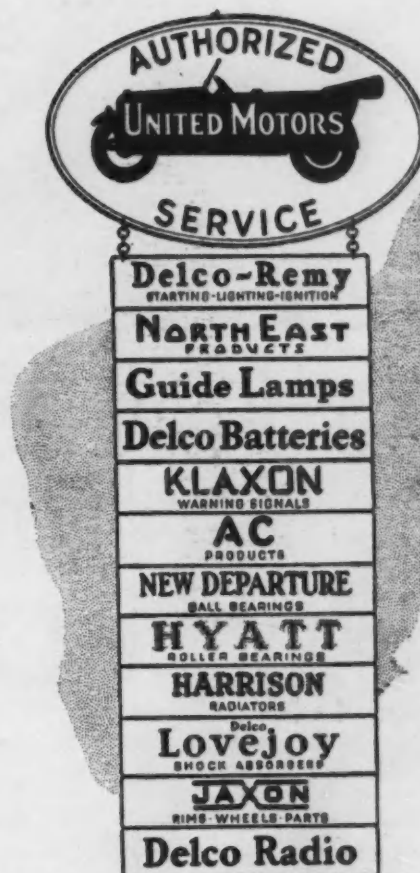
## —BUT ALL WE HAVE IS A PRACTICAL NECESSITY

LEECE-NEVILLE CO. — CLEVELAND, OHIO





# If you bought BEARINGS *on the same basis as your* TIRES



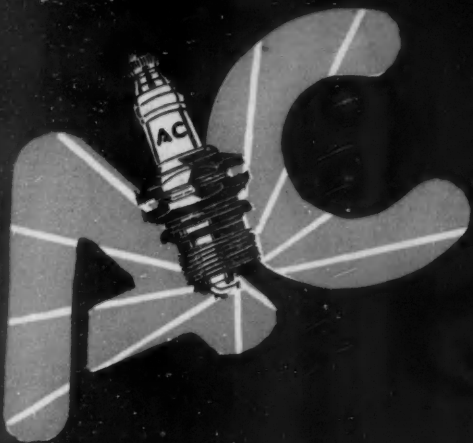
*...not on PRICE alone, but PRICE PER MILE...  
then you'd certainly be buying New Departures!*

If bus and truck fleet operators bought their bearings as they buy their tires—on an out-and-out mileage basis—it would be New Departures every time!

And this is a provable statement, for New Departure bearings have given ample evidence of their low final cost. They have demonstrated that, dollar for dollar, they provide more miles of usefulness. They not only minimize expensive repairs and still more expensive "time out," but also remove the necessity for frequent periodic overhauls; consequently their effect is soon felt in lower costs—*higher profits per mile!*

A trial of New Departures on your next

replacement job will sell you *permanently* on these better bearings. You will find them easy to get. For information about the nearest Bearings Distributor of United Motors Service, send for our Service Directory. Address the Direct Branch of United Motors in the nearest of the following cities: Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Des Moines, Detroit, Indianapolis, Kansas City, Los Angeles, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Oakland, Omaha, Philadelphia, Pittsburgh, Richmond, San Francisco, Seattle, St. Louis, Toronto.



# A NEW LONG LIFE FOR

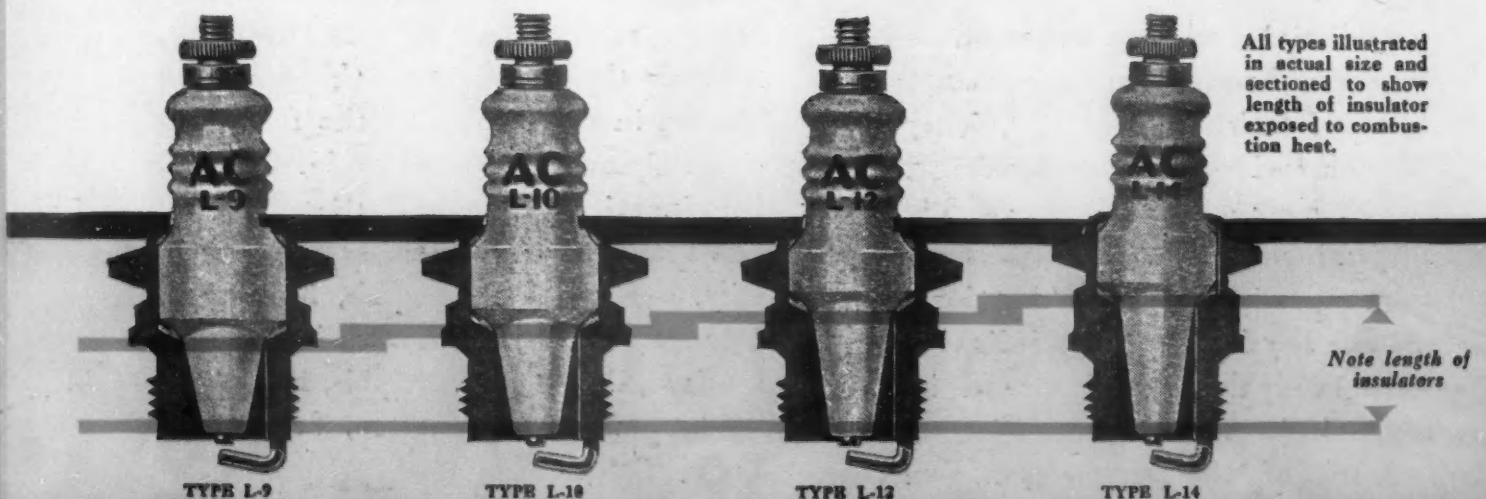
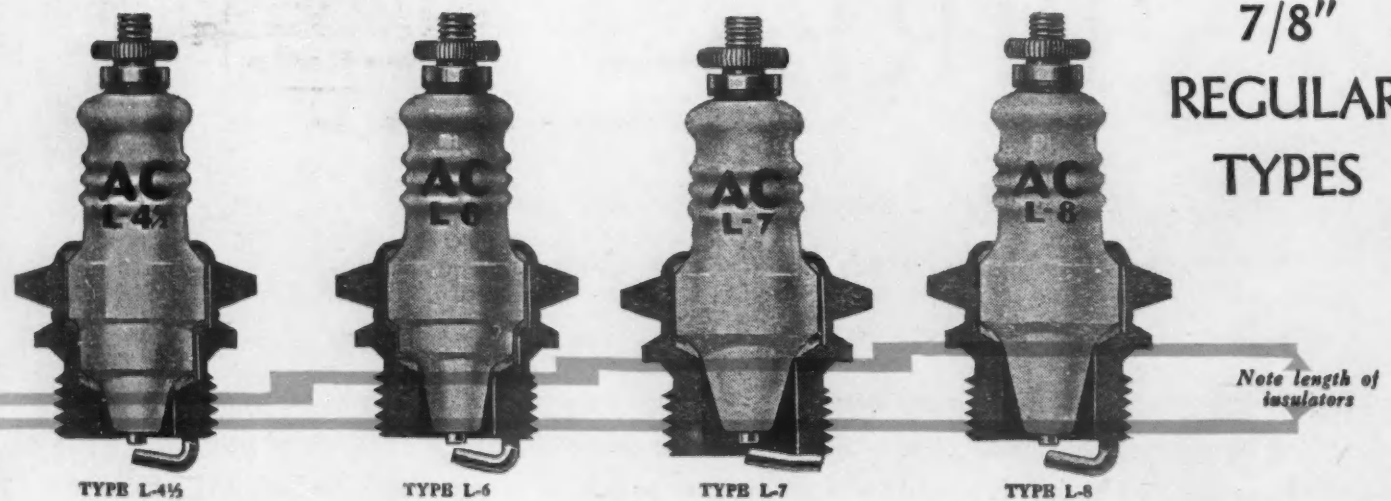
## Major spark plug problems can now be overcome

Burning away of electrodes, fouling, "blow-by" and pre-ignition problems can now be overcome.

The AC heat range system makes it possible to select the correct AC Long Life Spark Plug for every engine and operating condition. The heat range varies with the length

of insulator. Therefore, if a hotter or cooler plug is required select one with a longer or shorter insulator.

The number on the plug designates the length of insulator exposed to the combustion heat in 16ths of inches—see spark plug illustrations.



# IMPROVED LINE SPARK PLUGS HEAVY DUTY SERVICE

## How to select the correct type of spark plug to meet your needs

Selecting the right spark plug is a simple matter. If the plugs you are using are chronically fouling, select an AC Long Life Spark Plug with longer insulator. If plugs are blowing by, electrodes burning away or pre-ignition experienced, select spark plugs with shorter insulator.

Every AC Wholesaler's salesman has special information which enables him to recommend the correct AC Long Life Spark Plugs to meet your particular requirements.

Operators of heavy duty equipment will be pleased with the new AC Long Life Spark Plug. Tests covering many months of service under normal and extreme operating conditions in actual bus and truck operation have proven their superior quality and ability to stand up under all conditions for thousands of miles.

AC Wholesalers are now ready to supply you with these plugs. Standardize on AC Long Life Spark Plugs and end your spark plug trouble.

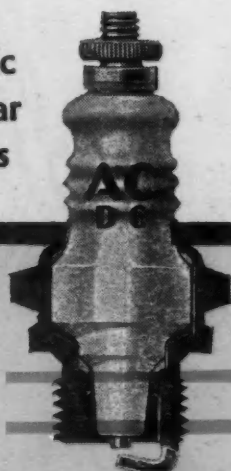
AC SPARK PLUG COMPANY, FLINT, Michigan



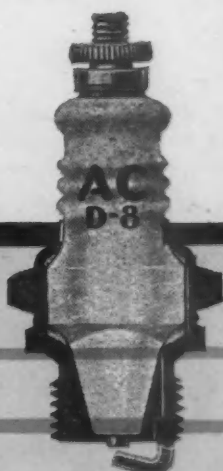
### Special Features

- 1 Wide range of insulator lengths to meet the heat characteristic of any engine.
- 2 Solid copper gaskets, of extra heavy material, insure against compression leakage.
- 3 "ISOVOLT" alloy in center and side electrodes, of extra heavy size, insures uniform sparking voltage, which means easier starting, better performance and longer electrode life.
- 4 Patented one-piece construction makes AC Long Life Plugs absolutely gas-tight.
- 5 Patented welded side-wire electrode has 35 times better electrical and 3 times better heat conductivity than a side wire inserted by the old "staking" method.

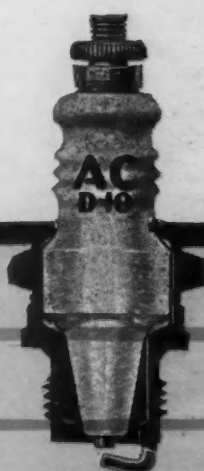
Metric  
Regular  
Types



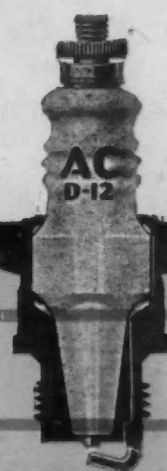
TYPE D-6



TYPE D-8



TYPE D-10



TYPE D-12

Note length of  
insulators



# Truck Operating and Maintenance Costs

*and their relation to the vehicles you are selling*

**W**HEN the operator puts one of your vehicles into service, Mr. Dealer, you confidently hope that his organization, methods and experience are such that the vehicle can be expected to render the utmost efficiency.

If it doesn't perform as he expects from the standpoint of economy, it's a direct reflection upon the dealer and the product he represents.

This is invariably the case when the operator has no reliable cost-keeping system or methods.

Insure yourself against such dissatisfaction by recommending to your customers the

## COMMERCIAL CAR JOURNAL *and* OPERATION & MAINTENANCE *Standard Cost System*

Thousands of operators throughout the country have installed this system—many dealers ask their customers to use it.

It is simple—but 2 forms are used—a driver's daily route and a monthly summary sheet, and the cost is but \$9.50.

The complete system consists of

500 Driver's Cards

60 Monthly Summary Sheets

1 Complete Instruction Booklet

1 Binder

*Write for sample forms and details*

### Chilton Class Journal Company

*Chestnut and 56th Streets, Philadelphia*



Controlled by the  
United Business Publishers, Inc.

**Nothing *Finer*  
Can Be Said of Any  
Motor Vehicle Than,  
It is -**



**LYCOMING MOTORS**

LYCOMING MANUFACTURING CO.  
WILLIAMSPORT, PENNSYLVANIA

*Lycoming's Vast Resources, Experience and Skill Are Dedicated to Leadership in Fine Motor Building*

*The Commercial Car Journal  
and Operation & Maintenance*

*May, 1930*

# New RUGBY TRUCKS

## Profit-Making Fundamentals

*In these Rugby features, experienced truck-users recognize profit-making fundamentals—Durability, Economy, Power and Speed:*

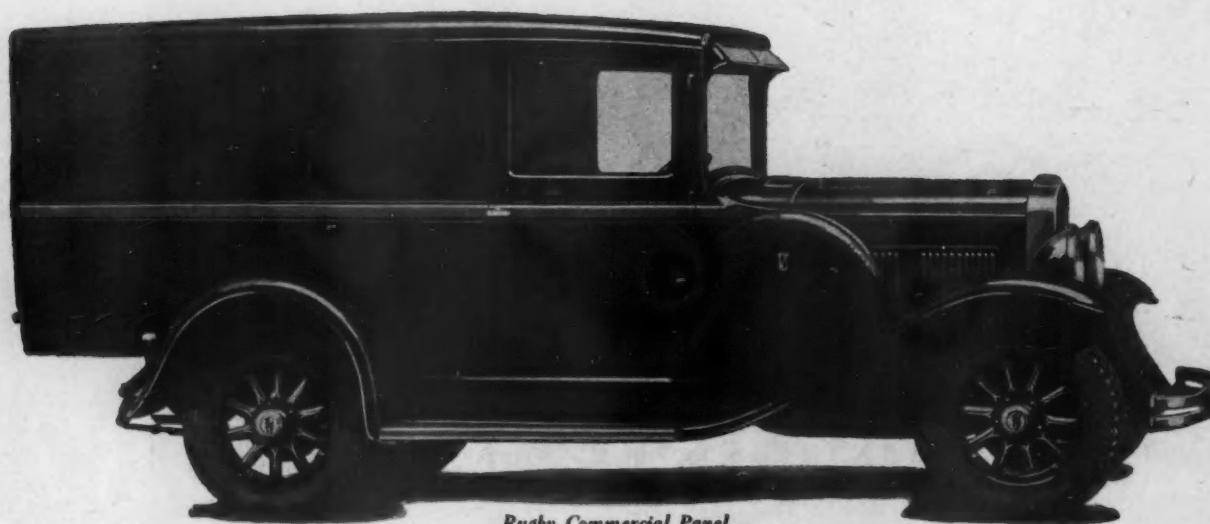
6-cylinder engine developing 58 horsepower at 3100 r. p. m.

Rear engine supports cushioned in live rubber.

4-forward-speed transmission—specially designed for truck service.

Direct drive in high—low first speed gear ratio.

Four steel-fabricated frame cross members of "box truss" design—in addition to engine support members.



*Rugby Commercial Panel*

R U G B Y  
A GOOD TRUCK - BUILT BY DURANT



# BUILT *by* DURANT

## Engineered by Experts To Fit *Your* Business

Factory shipments of the new Durant-built Rugby Trucks are increasing week by week. Durant distributors are now demonstrating these new and finer trucks, designed by recognized experts to cut haulage costs to the minimum.

Within the 1-ton range, the Rugby chassis 6-15 is winning well deserved acceptance on the basis of appearance, load capacity, power, durability, low maintenance cost, trouble-free operation, driver

comfort and safety for both driver and load.

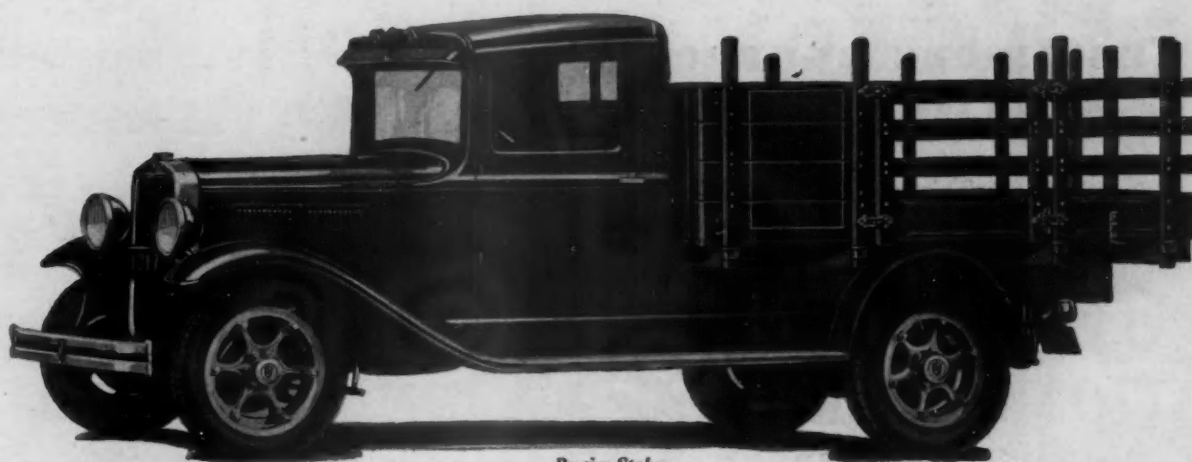
The new Rugby line also includes a 1/2-ton commercial chassis, engineered for efficient, economical, light delivery.

It will pay you to consult the nearest Durant distributor or dealer concerning your haulage problem. In the wide range of Rugby body types there is a body exactly suited to the requirements of your business.

DURANT MOTORS, INC., DETROIT, U. S. A.

FACTORIES—LANSING, MICH., OAKLAND, CAL.

LEASIDE, TORONTO, ONT.



*Rugby Stake*

R U G B Y  
A GOOD TRUCK - BUILT BY DURANT

# ONE MINUTE

## *...please!*

**Here's an  
extra profit  
for you with  
little extra effort**



**...RIMS and RIM PARTS** make possible for you a complete rolling equipment service without increased expense or overhead. You have your service shop, you have your men, you have customers coming in for other purposes . . . **SO YOU MIGHT AS WELL HAVE THE EXTRA PROFITS FROM RIMS and RIM PARTS.**

### **Customers appreciate and readily pay for RIMS and RIM PARTS SERVICE**

This service applies both to Trucks and Passenger Cars. Write today to Association Headquarters for full details and the name of your nearest Authorized Factory Distributor of genuine standard equipment rims and rim parts.

**NATIONAL WHEEL**

63 EAST LAKE STREET



**& RIM ASSOCIATION**

CHICAGO, ILLINOIS

SERVICE EVERYWHERE

*A National Organization of Authorized Factory Distributors for*

Budd Wheel Company

Firestone Steel Products Co.

Cleveland Welding Co.

The Goodyear Tire & Rubber Co. (Rim Division)

United Motors Service, Inc. (Jaxon)

Dayton Steel Foundry Co.

Kelsey-Hayes Wheel Corp.

Motor Wheel Corporation



The Commercial Car Journal  
and Operation & Maintenance

## APPROVED and BOUGHT by SEVERELY CRITICAL USERS

**T**HE representative names on the outside of Atterbury Trucks are a stamp of approval on what is on the inside.

Atterbury trucks have earned the O. K. of exacting buyers in such fields as highway transportation, road building, excavation, contracting, lumber, dairy and ice cream delivery, bottlers, oils and gasoline, public utilities, as well as state and municipal government service.

Atterbury presents a complete line of 1930 Sixes. Every capacity from one to four tons.

The high standard of quality and very close personal co-operation of the Atterbury organization are substantial reasons why you will profit by doing business with Atterbury, the oldest exclusive truck manufacturer in America.

*{ DEALERS, write for the reasons why Atterbury is as proud of the friends it makes as the trucks it makes. }*

**ATTERBURY MOTOR CAR CO.**  
Elmwood Avenue at Hertel, Buffalo, N. Y.

# ATTERBURY



# POWERFUL *and* FAST—Built to Last



*Fifteen Grammm Dump Trucks just delivered to the Highway Department, State of Ohio, of which nine are shown above. Dealers should waste no time in investigating the possibilities of merchandising Grammm Trucks to Highway and Construction fields.*

## GRAMM DEALERS CAN BACK THE FIELD UP AGAINST THE WALL

If Truck Dealers care anything about quality at the right price—if they care anything about breaking into the cream of the truck market in their respective territories, they should “talk” to Grammm at once.

Think of it, fellow Truck Men, one Grammm Dealer (Name on request) in two months time, sold more Grammm Trucks than all other makes combined. And this—in the territory surrounding the home town of two truck manufacturers.

Full evidence is available. Write or wire today.

Executive Offices and Factory: Delphos, Ohio	<b>GRAMM MOTORS, Inc.</b> <i>Builders of fine Motor Trucks Vans and Coaches</i>	Truck Capacities 1½ to 5 Ton
--	--	------------------------------------



Gramm Motors, pioneer truck builder, standardizes on Erie Wheels—the pioneer spoke-type Duals—on models of 1½, 2 and 2½-tons capacity

## For Long Distance Hauling— Erie Dual Wheels are unequalled

### For Better Reliability and Longer Service— Use Brake Drums of "Ermalite"

This alloy has a tensile strength more than twice that of the average cast drum material—60,000 to 65,000 pounds. It stands the stresses of braking heavy loads at modern high speeds.

Ermalite drums have an exceptionally high degree of wear resistance—they wear smooth as glass, without scoring.

And every drum is uniform, as Ermalite is a reverberatory furnace product.

Investigate the advantages of Ermalite Brake Drums, and the low cost in volume production. We'll be glad to quote either on rough castings or finished, machined drums.



GRAMM uses the wheels developed by the pioneers of the spoke-type Dual—and constantly improved to give users of trucks and buses added Safety, Convenience and Reliability.

ERIE Wheels are used as standard by automotive manufacturers whose experience has shown that *it pays to furnish the best wheel obtainable.*

Exclusive features assure more accurate alignment of tires, easier dismounting, better cooled drums, etc.

ERIE Wheels measure up to the highest standards of truck construction.

Department C

**ERIE MALLEABLE IRON COMPANY**

Automotive Wheel Division,  
ERIE, PENNA., U. S. A.

**ERIE**  
MALLEABLE WHEELS

"THE WHEEL OF TODAY—AND TOMORROW"

162



# SERVING the Growing Giant Oil Industry



**MORE** than ever before, the buyers of motor trucks are **WEIGHING CAREFULLY** the factors which constitute Truck Performance, Durability and Economy when considering a certain vehicle. And the **REASON** is perfectly clear.

Today, whether your prospect is the potential owner of a fleet of trucks or merely a prospect for ONE truck, he is invariably aware of those facts which mean operation cost, overhead and profit.

That is the reason why the new and greater GOTFREDSON is becoming increasingly the choice wherever it is sold and whenever the wise Prospect subjects any other Truck to comparison with a GOTFREDSON.

Among those who have hard Truck jobs, with a never-failing demand for power, speed and economy of operation, are the Giant Oil Companies. And it is a significant fact that among the fleets of these great concerns one invariably finds GOTTFREDSONS greatly predominate.

**MORAL:** There MAY be better jobs than selling Motor Trucks (we doubt it) . . . however, there CANNOT be a better Truck to SELL than that which sells itself originally by its sterling name . . . and KEEPS itself sold by its constant, unflinching and economical daily performance . . . over years and years.

To progressive dealers, there are a few GOTFREDSON territorial franchises left. A letter of inquiry will bring you full details.

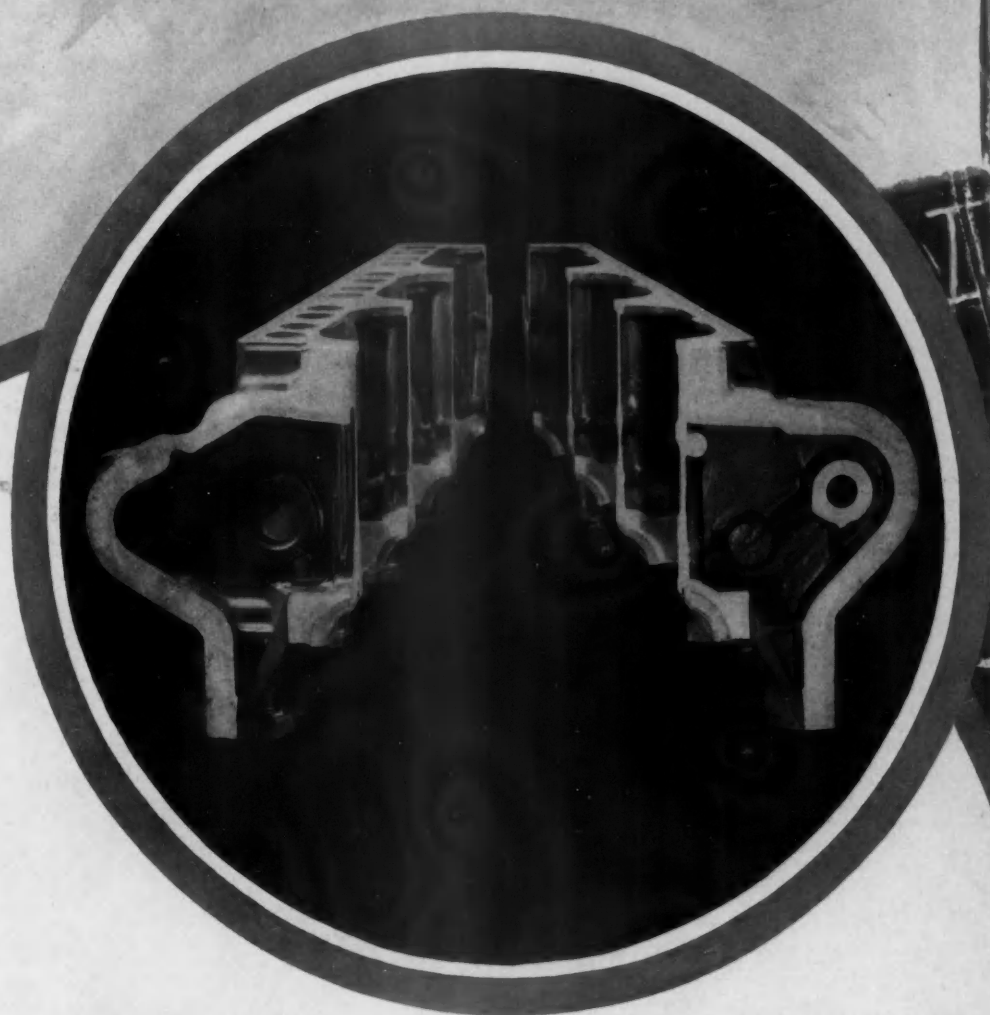


# Gottfredson TRUCKS

**THE ROBERT GOTFREDSON  
TRUCK COMPANY**

3601 Gratiot Ave.    :-    :-    Detroit, Mich.





## BED ROCK FOUNDATION

**A**N engine . . . like a building . . . must have a rigid foundation. Well braced by ribs and wide box-section bottom flanges . . . and inches deeper . . . the Waukesha crankcase gives the Waukesha Big Six Engine its extra-rigid foundation.

The extra depth of the crankcase permits attaching the cylinders so that the lower ends of the barrels are always exposed to the crankcase oil. Cylinders are held to a more uniform temperature over their entire length . . . pistons fit closer . . . and clearances stay uniform under various speeds and loads. There is no cylinder rocking . . . oil joints stay tight . . . crankcase dilution and "piston slap" are eliminated.

Bulletin No. 691 gives the details. Write *Automotive Equipment Division, Waukesha Motor Company, Waukesha, Wis.* Offices: New York, 8 West 40th St.; San Francisco, 7 Front St.

# WAUKESHA ENGINES



## THE FOUNDATION OF PROFITS

**A** RIGID foundation is indispensable to an engine. Profits, too, must be built upon a bed rock foundation . . . or there won't be any profits.

Trucks are not pleasure cars . . . trucks must keep moving and earning. Mileage is money. Waukesha engines are

not pleasure car power plants . . . . Waukesha engines are built to keep working. They are the foundation of the trucks' profits . . . for *Waukesha-powered* trucks increase pay loads and decrease hauling costs for their owners. Make a Waukesha engine the first requirement for the next trucks you buy.

*Bulletin 710 tells why . . . . write for it*

324

# WAUKESHA ENGINES

STRONG TO BEAR BURDENS  
— LIGHT TO MOVE



1000  
POUNDS  
SAVED



22,500 Ton-Miles  
A Year . . . FREE .

Throw away the drag of dead load. Substitute light, strong Alcoa Aluminum Alloys—this is the new principle in building truck bodies.

Here is a case in point. The Lammert Furniture Company of St. Louis, operating a fleet of trucks for furniture delivery, set out to decrease dead load and preserve the appearance of the body. A saving of 750 pounds in body panels alone was accomplished by the use of light, strong Alcoa Aluminum Alloy, with no sacrifice in strength. Other aluminum applications brought the total weight savings to 1,000 pounds. Figured upon the current daily schedule, the saving amounted to 22,500 ton-miles a year free.

Day after day, dead load adds to expense. This is the crux of the whole situation. Every truck owner wants to operate on a profitable basis. The use of Alcoa Aluminum Alloys, for body construction, is a step towards profits.

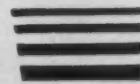
Even after the useful life of the truck is over, Alcoa Aluminum brings profit because of its high scrap value.

Here is a condition interesting to every truck operator and body designer. Let our engineers cooperate with you. ALUMINUM COMPANY of AMERICA; 2439 Oliver Building, PITTSBURGH, PENNSYLVANIA.



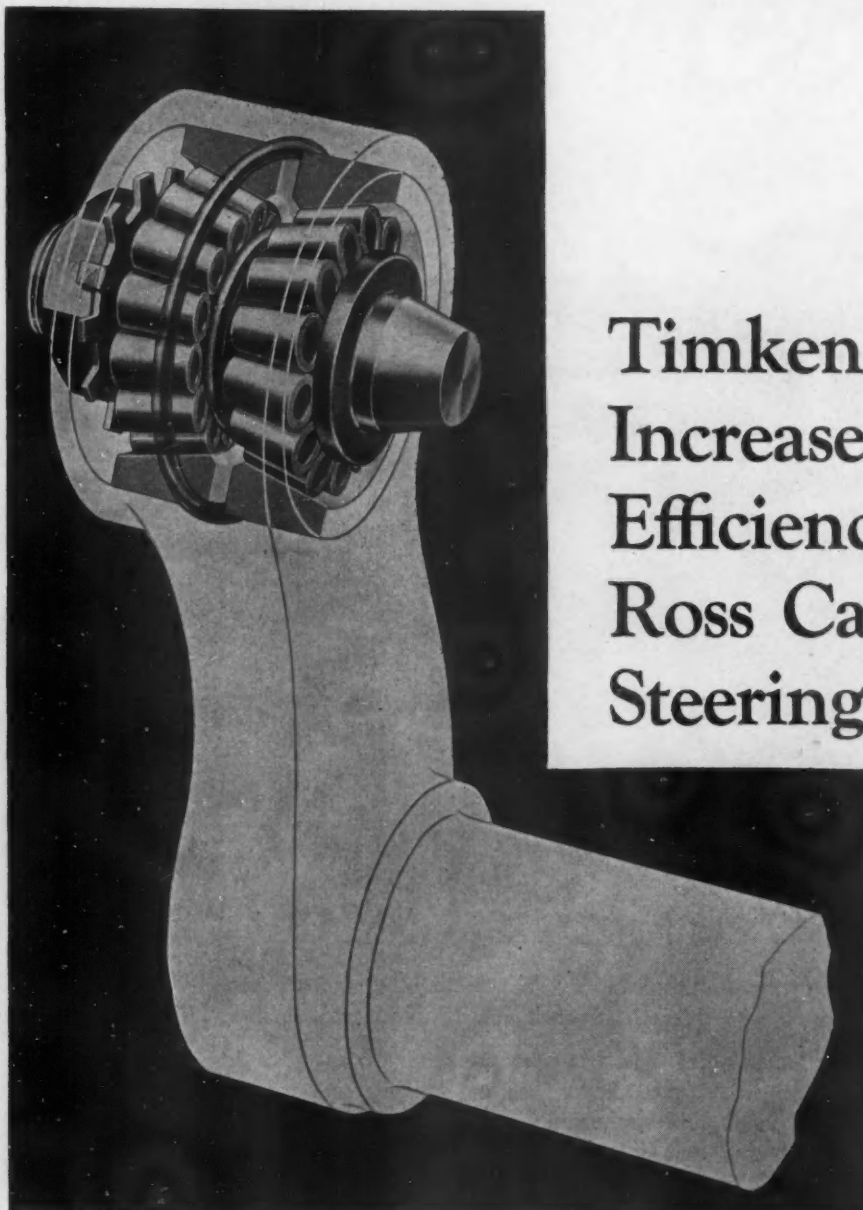
The Commercial Car Journal  
and Operation & Maintenance

ALCOA  
ALUMINUM



May, 1930





## Timken Bearings Increase the Efficiency of the Ross Cam-and-Lever Steering Gear

Easier steering is accomplished by the use of Timken Tapered Roller Bearings in steering gears, and a big swing to Timkens for this purpose is now in progress.

One of the latest and most interesting applications of Timken Bearings



ings to steering gear design is shown in the illustration.

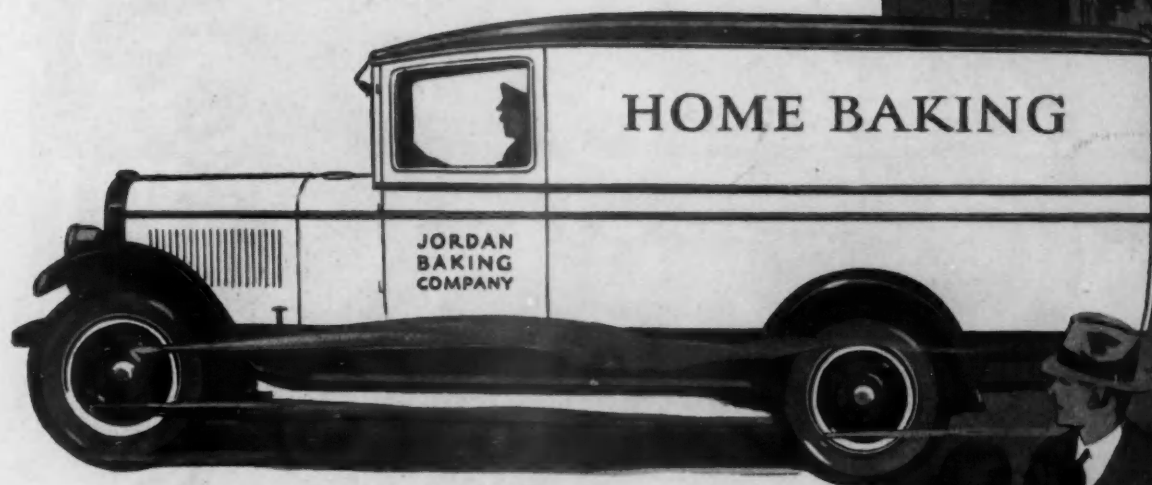
By mounting the lever stud of this cam-and-lever steering gear on Timkens, rolling contact with the cam has been substituted for sliding contact and steering ease increased 50%.

Radial, thrust and resultant loads are adequately provided for at the same time by the exclusive combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken-made steel.

THE TIMKEN ROLLER BEARING COMPANY  
C A N T O N , O H I O

**TIMKEN** *Tapered Roller* **BEARINGS**

# Why 1,400 Big Business Concerns Use Fleets of 5 to Over 1,000 REO SPEED WAGONS



Model "DA" 1-Ton Reo Speed Wagon

## ... Here's the Reason!

**"T**O meet today's intensive competition, trucks must perform *two* important functions: (1) Reduce distribution costs. (2) Increase business."

### Low Distribution Cost

Thousands of truck-wise operators have learned in the costly school of experience, that low distribution cost is the result of moderate first cost of trucks; economical operation; and low depreciation because of long life. Many trucks offer one, some even two, of these low cost factors. However, a Reo Speed Wagon is the one truck that fulfills *all* of these requirements.

Speed Wagon prices are moderate—lower even than the price of many short-lived, less economical trucks. Any Reo dealer will be glad to furnish you with facts and figures on their low operating cost.

The long life of Reo Speed Wagons is a matter of official record. Scores show mileages of 200,000 miles or more. Hundreds have passed the 100,000-mile mark. Thousands of Speed Wagons are already on their way to even higher records.

*The Commercial Car Journal  
and Operation & Maintenance*

Thus Speed Wagons undoubtedly offer lower distribution cost to truck operators than any other truck in the field today.

### Increasing Revenue

The faster the run, the greater the profit—particularly in these days of keen competition. Speed Wagons bring to trucking the speed and agility of a roadster. They speed up time schedules. Increase the number of stops and starts for sales, in a given space of time. Because of their speed they make it possible for you to secure and hold additional business in a larger territory. This results in increased business and greater revenue.

Consider, too, this important factor in increasing revenue: Your trucks are

moving billboards advertising your business to the community. Their appearance says to thousands of people every day, "A first-class business" or "A second-class business."

Realizing the tremendous advertising importance of trucks that *look* high-class and that *are* high-class, Reo builds into Speed Wagons smart, first-class appearance that attracts new business.

...

1,400 big business concerns have bought fleets of one to over one thousand Speed Wagons because Reo offers the one-time-proven truck in which both low cost and the ability to increase business, are combined. Thousands of single truck users buy Speed Wagons for the same reason.

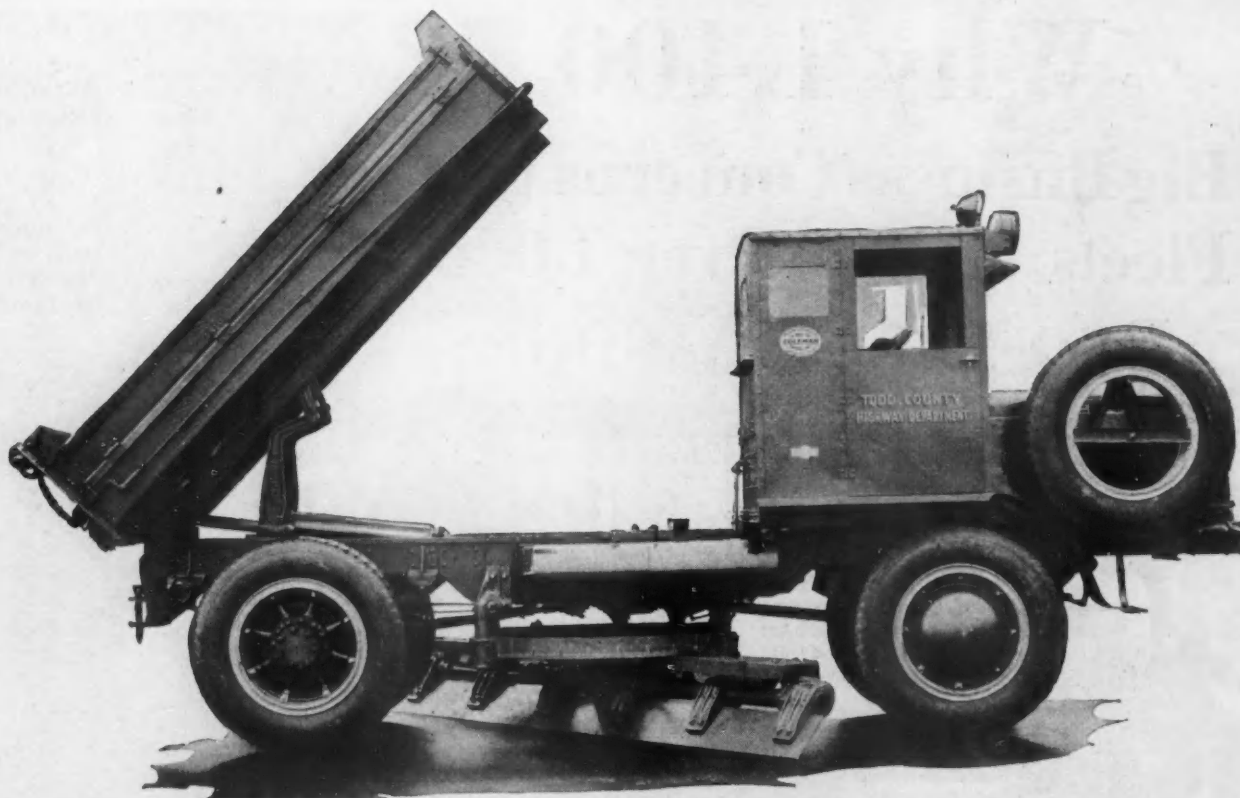
### Opportunity for Dealers

Write for facts on the generous Reo franchise. Reo dealers are enjoying unprecedented sales success with Reo Flying Cloud pleasure cars and Reo Speed Wagons. All inquiries treated confidentially.

**REO**  
LONG LIFE  
**SPEED WAGON**

REO MOTOR CAR CO., Lansing, Mich.

May, 1930

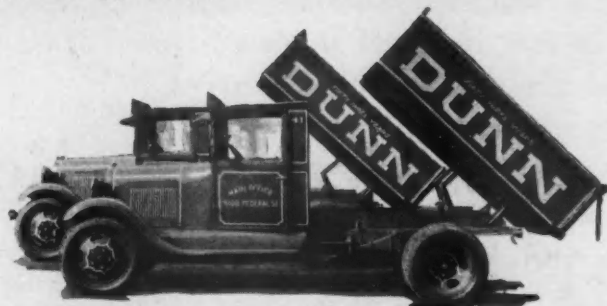


A unique installation of a Model 6UB St. Paul Underbody Hydraulic Hoist on a Coleman 4-wheel drive road scraper for Todd County, Minnesota Highway Department. This combination is very handy in resurfacing gravel roads.

## If Dump Trucks Could Talk

what advice would they give about hoist equipment? It would be good advice, because they'd *know*. It's a cinch they'd tell you that "dumping" requires he-man hoists, built not only to raise and dump a heavy load, but to stand the countless strains out there on the job. If trucks could talk, most of 'em would recommend St. Paul Hoists, and to back up their selection, they, as we do now, would suggest that you ask the one man who really knows. They'd say:

**"Ask the Dump Truck Driver on the Job"**



Two Model AA Ford chassis equipped with Model 4UBS St. Paul Underbody Hydraulic Hoists.

*If you have a new truck or an old truck, a heavy truck or a light truck—there is a St. Paul Hoist for it.*

# —St. Paul—

**VERTICAL AND UNDERBODY  
HYDRAULIC HOISTS**

**St. Paul Hydraulic Hoist Company**

Factories at St. Paul, Minnesota

A St. Paul Hoist Distributor and Service Station is near you. Write for name and address.



# COLEMAN

FOUR WHEEL DRIVE

## Again Demonstrates Its Year Round Utility

**I**T'S been a tough winter, but Ramsey County, Minnesota with the aid of this fleet of nine Coleman Four Wheel Drives has been able to maintain cleared highways thru it all.

And now that summer is approaching, they can still use their Colemans for road maintenance work. That's the beauty of having a Coleman franchise. You can readily sell Colemans on their all year round utility.

Repeat orders are a good index to customer satisfaction. These nine trucks are conclusive evidence that Colemans repeat. This fleet has grown steadily from the initial purchase to its present size. Impressive! Certainly, but not unusual for Coleman users are satisfied with Coleman performance.

However you consider it, the Coleman Franchise is a good franchise to hold. Territories still open. Communicate with the nearest office.

### COLEMAN MOTORS CORPORATION

*Main Plant*  
Littleton, Colorado

*Eastern Plant*  
Washington, D. C.



# STEADY AS A GYRO-COMPASS

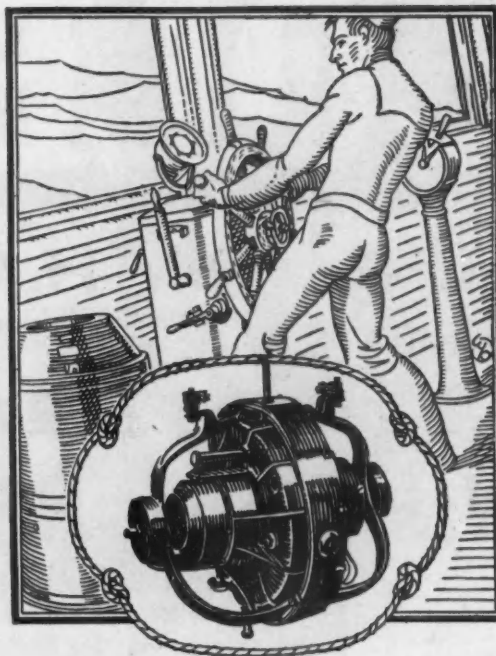
Your Business Paper  
Marks a True Course



**H**IGH up in the wheelhouse of a ship there spins a gyroscopic compass, pointing ever at True North. With automatic precision it warns the navigator of the slightest deviation from his course. By its aid he steers his ship unerringly across the waste of waters to its destined port.

Just so the printing press, revolving steadily in its great frame, is symbolic of the guiding function of the business paper in keeping business headed straight. Is industry threatened by stormy times? The business paper points the way across an area of uncertainty to the smooth waters of stability. Does an industry veer from its course to follow misleading lights? The business press sounds a warning. Is the ship of business blown off its track by a sudden shift in public demand, or swerved aside by an unexpected change in production or sales technique? The business press points out the course to safety and prosperity.

It is this function of the industrial and merchandising press, no less than its service



as a source of news and data, which makes it a power to be reckoned with in business affairs. For the modern business paper is an essential factor in every progressive industry. By its competence in the gathering and presentation of information, it has made itself indispensable. For its independence in the editorial inter-

pretation of that information it has become respected. It is a strong organization, efficiently staffed and capably administered. It commands a sound, paid, audited circulation. Its news and editorial pages are unbiased and unbuyable.

And for these reasons its advertising pages are bought by businesses with a story to tell to its readers.



THIS SYMBOL identifies an *ABP* paper . . . It stands for honest, known, paid circulation; straightforward business methods and editorial standards that insure reader interest . . . These are the factors that make a valuable advertising medium.

THE ASSOCIATED BUSINESS PAPERS, INC.  
FIFTY-TWO VANDERBILT AVENUE · NEW YORK CITY

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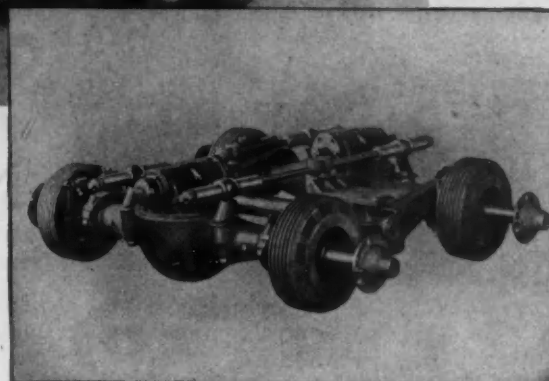
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Dependable materials  
are the best assurance of  
dependable performance

Model 610 Brushway-Indiana Truck  
mfd. by INDIANA TRUCK CORP.,  
Morton, Ind., equipped with Timken-  
Detroit Four-wheel worm drive unit for  
six-wheel vehicles.

BELOW: Tandem  
axle unit SW-400  
showing Nickel Chro-  
mium Steel shafts  
and other parts, mfd.  
by THE TIMKEN-  
DETROIT AXLE  
CO., Detroit, Mich.



## BUILT TO WITHSTAND HEAVY SERVICE

*Timken Axles have...*

## NICKEL ALLOY STEEL PARTS

**T**IMKEN axles are used by more than 100 leading manufacturers of automobiles, motor coaches and trucks. The long and successful career of The Timken-Detroit Axle Company in building both front and rear axles to withstand the prolonged and repeated stresses and shocks of heavy duty transportation is due in large measure to the consistent use of materials of proven strength and dependability.

Nickel Chromium Steel is used in the axle shafts of Timken Six-Wheel Units, as well as in the worm shafts and the torque arms.

Other important parts, such as the spring seat ball studs, are also constructed of Nickel Steels.

The high torsional strength and impact resistance of Nickel Chromium Steel have made it by far the most widely used material for axle shafts and similar automotive parts. There is a Nickel Alloy Steel appropriate for every heavy duty application. The experience of designers and users over a period of many years has contributed to a valuable fund of information, from which detailed data on the properties and applications of Nickel Steels will be gladly furnished by our staff of engineers.

# Nickel

FOR ALLOY STEEL

Send for List of Available Publications on Nickel and Its Alloys



THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.





# Profit

## The Big Reason for Using "COMMERCIAL"

### 3-Way Dump Bodies

"Commercial" dump bodies have revolutionized dump trucking methods!

"Commercial" bodies dump three ways—right, left, rear. Down-opening doors slide loads over wheels.

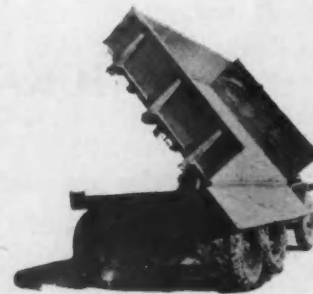
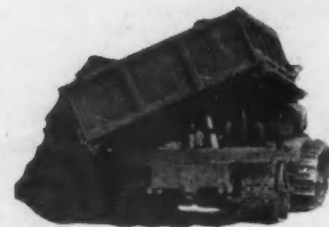
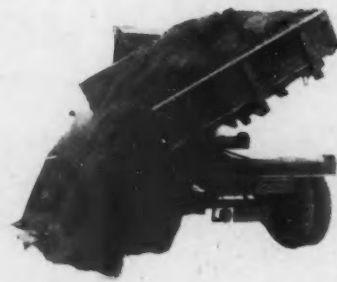
Into hoppers and fills, along roadsides or curbs, standing or on the move, loads are quickly dumped or distributed.

Even the good old fashioned method of rear end dumping is improved upon by "Commercial." The down folding tail-gate may be quickly converted into a spreader by simply moving two pins from bottom to top.

These and many other unique features of design and construction contribute to greater production and facility of movement. Contribute, also, to greater economy, which, when "Commercial" 3-Way and Rear Dump Bodies are used, translates itself into increased profits.

Before you buy investigate "Commercial" 3-Way and Rear Dump Bodies. In sizes from 1½ to 15 cubic yards. Write for details.

Specify and demand "COMMERCIAL" equipment



Adaptability is illustrated by the accompanying views showing "Commercial" 3-Way Dump Bodies mounted on different types of truck chassis!

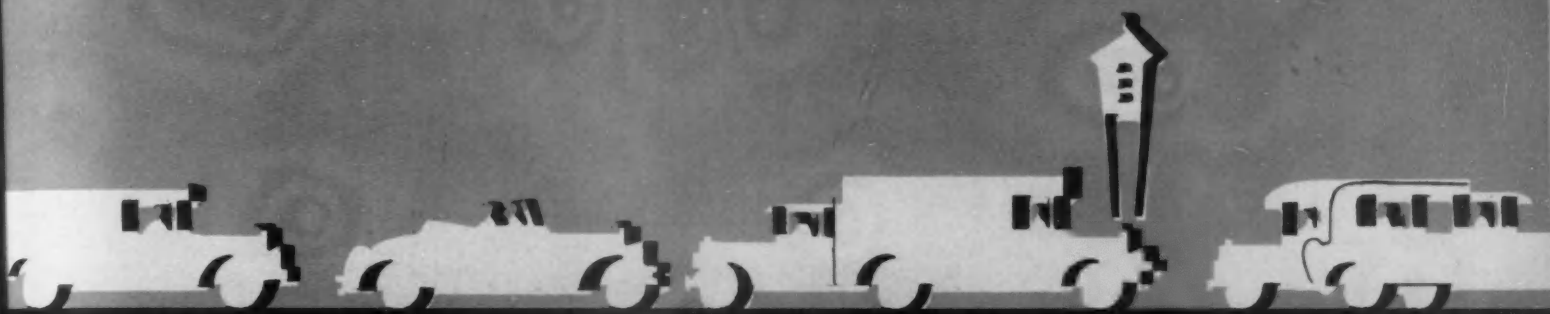
# The Commercial

## Shearing & Stamping Company

YOUNGSTOWN, OHIO

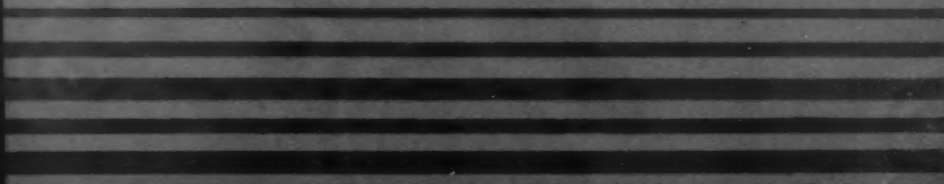


# EATON EQUIPMENT

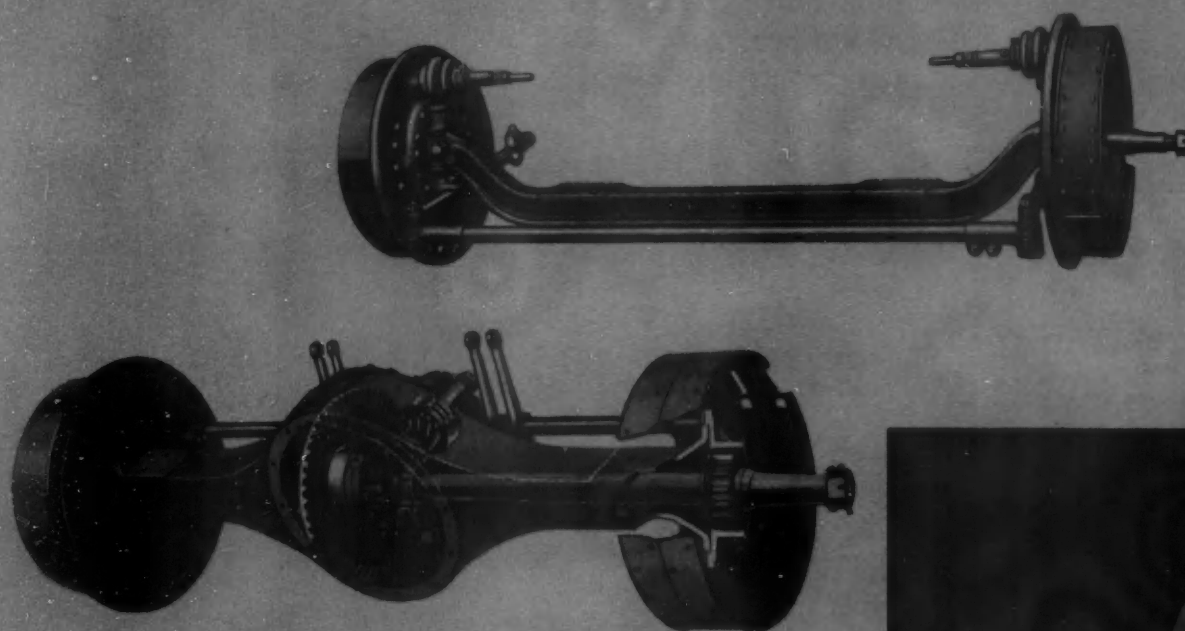


AXLES  
SPRINGS  
BUMPER  
EATON LITES  
EASY-ON CAPS  
PERFECTION HEATERS

○UR substantial growth  
from year to year  
is the normal result of an  
unwavering determina-  
tion to built the best. Every  
member of the huge Eaton  
organization is pledged  
to this fixed purpose.



# EATON AXLES



To operate trucks or buses  
equipped front and rear with  
Eaton Axles is your very best  
assurance of getting the most  
miles of uninterrupted service.

[Truck and bus manufacturers are invited  
to submit their axle problems to us,  
and share our many years of experi-  
ence in this highly specialized field.]

THE EATON AXLE & SPRING COMPANY  
CLEVELAND, OHIO



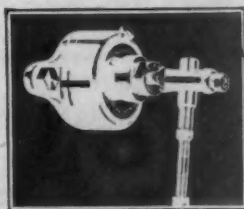
For  
TRUCKS  
and BUSES





## Grand Canyon Buses are HOUDAILLE equipped

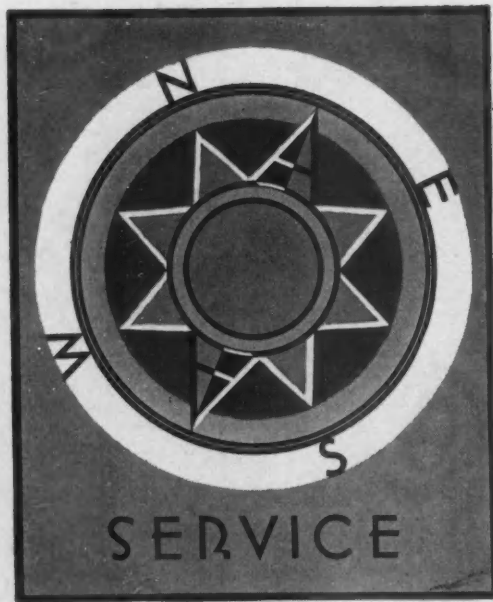
In providing for the comfort and safety of the thousands of tourists who annually visit this famous scenic resort, the Fred Harvey Company, with characteristic thoroughness, has equipped its great fleet of luxurious buses with the most efficient and costly shock absorbers made—Houdailles.



**HOUDAILLE**  
PRONOUNCED "HOO-DYE"  
**SHOCK ABSORBER**

**Houde Engineering Corporation**  
Buffalo, N.Y.

A DIVISION OF HOUDAILLE-HERSHEY CORPORATION  
Pioneers and world's largest producers of hydraulic double acting shock absorbers



## Speaking of Service, Gentlemen!

Mr. W. W. Bond, Secretary and Treasurer, The Best Truck Company, 380 South Senate Avenue, Indianapolis, Indiana, wrote to Ardmore on March 13th: "We wish to thank you for the quick service we received on our order by telegram for one Clutch Sliding Plate No. 3M343. Our telegram was sent at exactly twelve o'clock noon on 3/10/30, and we received the article by parcel post special delivery at 2:30 P.M. on 3/11/30 . . . service of just 26½ hours." » » Truck owners and dealers alike know the value of Autocar Service and the significance to modern truckdom of the network of 51 Autocar Factory Branches. There are Autocar Dealer Franchises available for a few wide-awake, up-and-coming, enterprising men.

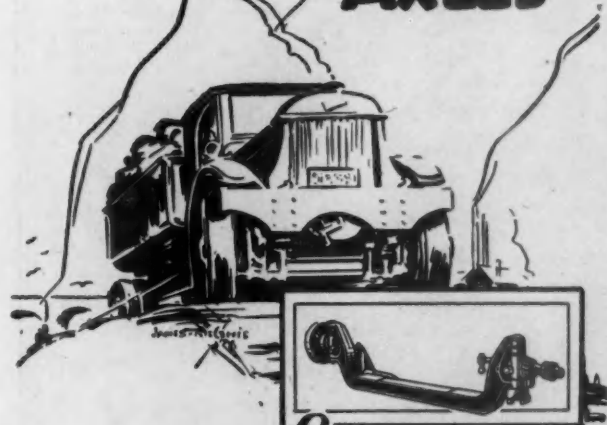


# AUTOCAR TRUCKS

The AUTOCAR Company, Ardmore, Pa., Established 1897

# SHULER

## FRONT AXLES



*for* **TRUCKS**  
Tractors and Trailers

## DEPENDABLE

Is of first importance in a source of supply.

Our known ability to deliver as required costs no more than the "not so good".

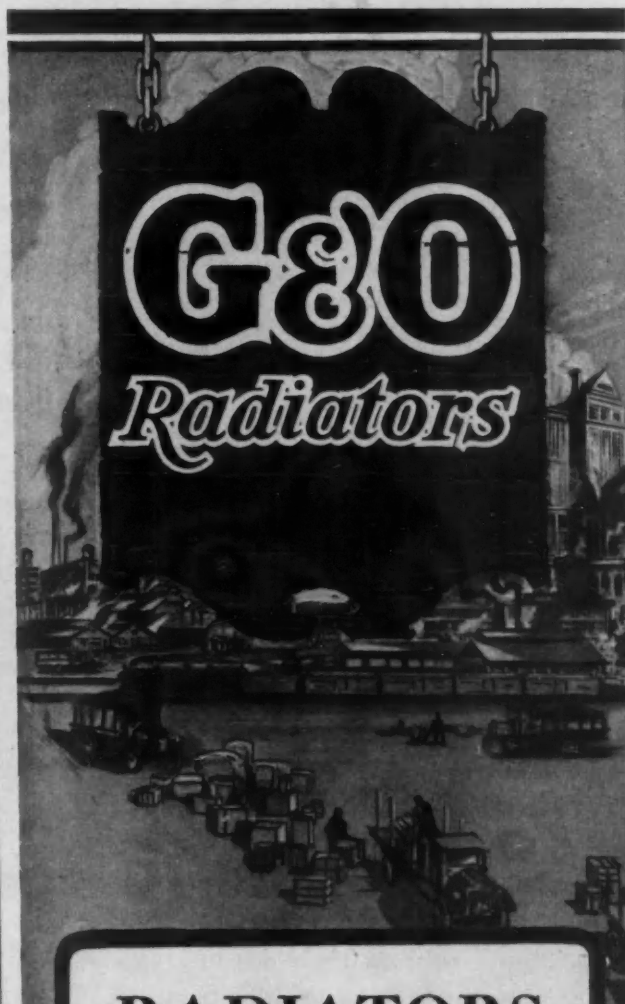
Why not use the best?

**FRONT  
AXLES  
ONLY**

with or with-  
out brakes.

**SHULER AXLE CO.**  
INCORPORATED  
LOUISVILLE KENTUCKY

*The Commercial Car Journal  
and Operation & Maintenance*



## RADIATORS

for  
**Commercial Vehicles**

**S**PECIALIZING for 15 years in the design and manufacture of radiators for commercial vehicles, The G & O Manufacturing Co. occupies a preeminent position in this industry. Every type of heavy-duty radiator is obtainable. Manufacturers and fleet owners are requested to write for complete information regarding G & O Radiators.

**The G & O Manufacturing Co.**  
*Radiator Manufacturers Since 1915*  
New Haven Conn.

May, 1930



# It SAFEGUARDS Your INVESTMENT

This whole structure of Haulage rests on the cornerstone of Profits. The trucks it builds, and operates **MUST MAKE MONEY IN ACTUAL SERVICE.** To accomplish this end, the manufacturer, the dealer, and the truck owner have all made large investments.

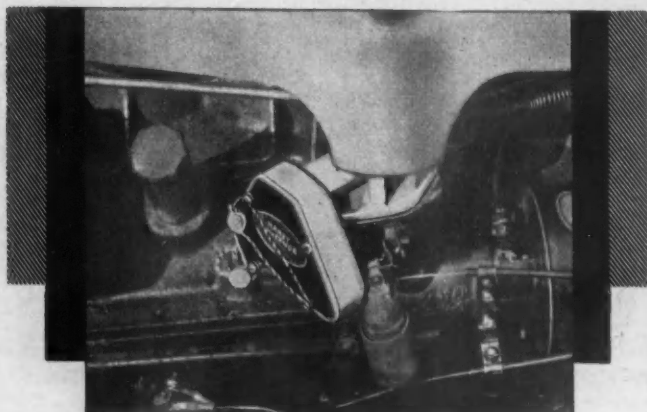
Handy Governor **SAFEGUARDS THESE INVESTMENTS.** It controls speed automatically, eliminating the most fertile cause of accident and short life. At the same time, it creates amazing economies in tires, brakes, and motor supplies. Thus Handy makes Haulage **PAY.**

Most manufacturers equip their trucks with Handy Governors in the process of manufacture. Others rely on their dealers to add Handy when the sale is made. Experienced buyers always authorize the small additional cost without hesitation. They know that "Protection" means "Governor", and that "Governor" means "Handy".

The Handy Governor retails from \$17.50 upwards.  
Ask our nearby distributor for full details.

**HANDY GOVERNOR CORPORATION**  
3929 W. Fort Street Detroit, Michigan

## HANDY GOVERNOR



May, 1930

STATEMENT OF OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,  
REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,  
of COMMERCIAL CAR JOURNAL and OPERATION & MAINTENANCE  
published monthly at Philadelphia, Pa., for April 1, 1930

STATE OF PENNSYLVANIA } ss.:  
COUNTY OF PHILADELPHIA }

Before me, a Notary Public in and for the STATE and county aforesaid, personally appeared A. W. Brownell, who, having been duly sworn according to law, deposes and says that he is the Business Manager of COMMERCIAL CAR JOURNAL and OPERATION & MAINTENANCE, and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publishers, editor, managing editor, and business manager are: Publisher, Chilton Class Journal Company, 56th & Chestnut Sts., Philadelphia, Pa.; Editor, George T. Hook, 33 N. 63rd St., Apt. A, Philadelphia, Pa.; Directing Editor, Norman G. Shidle, Walnut Park Plaza, 63rd & Walnut Sts., Philadelphia, Pa.; Business Manager, A. W. Brownell, 508 Anthwyn Rd., Merion, Pa.

2. That the owners are (Give names and addresses of individual owners or if a corporation, give its name and names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock) United Publishers Corporation, 239 West 39th St., New York City.

United Publishers Corp. Stockholders in excess of 1%  
A. United Business Publishers, Inc., 239 W. 39th St., N. Y. C. (see note)  
B. Frederic C. Stevens Co., 23 Prospect Terrace, Montclair, N. J. (see note)

Note—Stockholders of (A) in excess of 1%  
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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

A. W. BROWNELL, Business Manager.

Sworn to and subscribed before me this 31st day of March, 1930.

(Seal) HARRY SMITH.

My Commission expires at the end of the next session of the Senate.

## Commercial Car Journal and Operation & Maintenance Standard Cost System

The Commercial Car Journal & Operation and Maintenance Standard Cost System is a simple, convenient and inexpensive method of keeping close tabs on trucks and drivers.

It costs only \$9.50 for 500 Driver's Cards, 60 Monthly Summary Sheets, 1 Complete Instruction Book, 1 Binder.

**CHILTON CLASS JOURNAL  
COMPANY**

Chestnut and  
56th Sts.



Controlled by the  
United Business Publishers, Inc.

Philadelphia  
Penna.

The Commercial Car Journal  
and Operation & Maintenance



## Dixon's 677 Provides an Ideal All-Weather Lubricant

Summer and hot weather are just around the corner. Bus and truck owners everywhere will be changing transmission and differential lubricants. With Dixon's 677 no changes are necessary—it is the one all-weather lubricant. Regardless of how hot the day or long the grind, Dixon's stays the same. It is a real 100%

lubricant which provides double protection to hard worked transmission and differential parts. When trucks or buses need renewed lubrication, profit by the lubricant with the film of graphite and the film of grease. Send for bulletin No. 112 G. JOS. DIXON CRUCIBLE CO., Jersey City, N. J.

# DIXON'S 677 Graphited Grease

# Fisher-Standard



**Built of Quality Units by Quality  
Builders of Motor Trucks**

WE INVITE COMPARISON

**STANDARD MOTOR TRUCK COMPANY**

DETROIT, MICH., U. S. A.

ALBERT FISHER, President

CABLECODE: STANTRUCK



## FOR WORKING ON THE WATER-PUMP *Nothing Can Beat It!*



**I**T'S EASY to adjust the packing-gland-nut—if you've got a wrench that can handle the job. The new Water-Pump "Superrench"—designed expressly for this purpose, with thin jaws, narrow head and a twelve-point, non-slip opening—makes the work surprisingly simple.

In narrow, confined places—where no ordinary wrench can be operated—this new "Superrench" makes rapid, efficient service possible. Like all "Superrenches," it is drop-forged from Chrome-Molybdenum Steel, heat-treated and Chrome-plated with polished head.

The Water-Pump "Superrench" is a swift worker that no efficient service man should be without.

*Every "Superrench" is Guaranteed  
Against Breakage*

**WILLIAMS**  
SUPERIOR DROP-FORGED TOOLS  
**"SUPERRENCH"**  
(Chrome-Molybdenum)

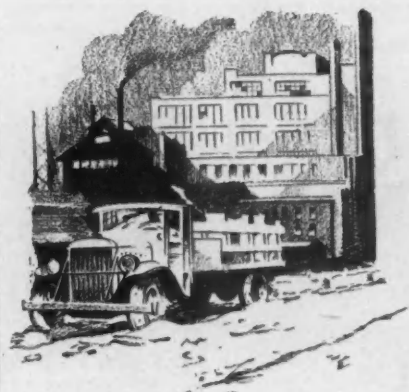
**J. H. WILLIAMS & CO.**

*"The Wrench People"*

New York

BUFFALO

Chicago



On rutted roads or climbing stubborn winding hills, the truck equipped with Trainor Safe-T-Springs comes through on time—every time.

## Out Where the Test Begins

Out from smooth pavements—away from the better lanes of traffic—there's where the springs' test begins! And that's where countless truck owners lose their profits; they don't want to put on that extra load that is the profit load. Too much danger of spring breakage.

But trucks equipped with Trainor Safe-T-Springs are in no such danger. They will *safely* bear the burden of an extra ton—every time!

The Trainor Safe-T-Spring is an auxiliary spring that levels the load, and absorbs the added weight without putting any strain on the regular springs. In fact it eliminates any danger of broken springs, taking up sudden jolts and jars that so often cause spring breakage.

The Trainor Safe-T-Spring is easy to install. There are no holes to drill. It clamps onto the frame and will not come off.

Write today for illustrated literature.

*A complete Range of Springs For All Types of Motor Vehicles*

**TRAINOR NATIONAL SPRING CO.** Newcastle, Ind.





**FREEMAN** trucks handled this job with *remarkable economy.*

**FREEMAN** 4 wheel drive trucks will do *any hauling job efficiently and economically.*

1. 100% traction.
2. 8 speeds forward, 2 reverse. A speed to suit every condition.
3. Long life.
4. Low operating and maintenance costs.
5. Easy riding, saving both truck and driver.
6. Easy steering.
7. Full power to both front wheels in any position.

*If you operate or sell trucks, you should know about FREEMAN performance. Write for details.*

## **FREEMAN**

### **Four Wheel Drive MOTOR TRUCK**

FREEMAN MOTOR COMPANY  
1217 Beaufait Street, Detroit, Michigan

THE LIFE OF THE TRUCK  
depends on the DRIVER  
THE HEALTH of the DRIVER  
depends on the seat



*This seat is mounted  
on our adjustable AIR  
SPRING BASE.*

ROAD SHOCKS are  
ABSORBED  
in the  
SEAT BASE

PRICES  
on request

No jar on the spine.  
No friction on your back.  
No wrinkled or worn clothes.  
No body fatigue—you ride on air.  
(Gas Tanks on Modern Trucks are hung on the side)

**AIR SPRING SEAT BASE CO.**  
533-539 Totowa Ave. Paterson, N. J.

## **EXTRA COSTS SPOIL PROFITS**

1 Ring Gear	Estimate	\$27.50
1 Pinion Gear	"	22.00
2 Pinion Bearings	"	24.00
Wrecking Crew	"	10.00
Labor	"	18.75
Truck out of service	"	35.00
TOTAL		\$137.25

Because GEAR O, the superfine lubricant for transmissions and differentials was not used.

"And that aint all, Mr. General Manager. Think of what you have been called by your customers because of the breakdown."

We believe you are interested and now ask you to

Write, Wire or 'Phone the

**AMERICAN OIL AND GREASE CORP.**

201 N. Wells St.  
Chicago

OR

742 Book Bldg.  
Detroit

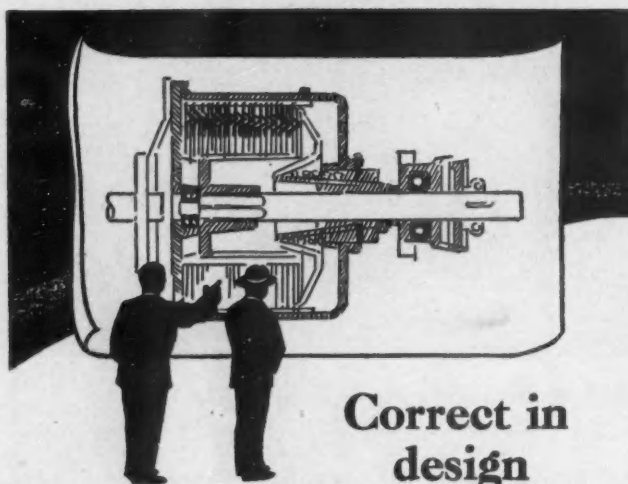
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USE IN:

Hypoid Gears  
Multi Speed  
Gears  
Four Speed  
Gears  
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Gears  
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Worm Drive  
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The improved  
lubricant for  
all transmis-  
sions and dif-  
ferentials—new  
or old.

# **AMERICAN GEAR O**

USED AND RECOMMENDED BY LEADING MANU-  
FACTURERS. NAMES ON REQUEST



## Correct in design means efficiency on the road

The trucks which you sell must be correct in design or they cannot be efficient on the road. B. C. A. Bearings in the clutch release position of America's leading motor trucks play a most important part in these days of heavy traffic and high speeds. They assure you of smooth and rapid operation of the clutches in the trucks which you are selling. Good trucks are B. C. A. equipped.

**BEARINGS COMPANY OF AMERICA**  
LANCASTER, PA.

Detroit, Mich. Office: 1012 Ford Bldg.





**MILEAGE RECORDS** **COST CONTROL**

### Veeder-ROOT

## HUB ODOMETERS

Record the mileage by which to measure the performance of your trucks; the efficiency of your drivers. Show your costs-per-mile for supplies and maintenance; give you control of operating-cost by a quick check on wasteful operating. Regular model, adaptable to all standard trucks, \$20 list. For Model A Fords, complete with threaded hub for attaching, \$21. Ask for informative circulars.

**Veeder-ROOT** INCORPORATED  
HARTFORD, CONN.



May, 1930

## When Making Wheel Changes on Your Trucks . . .

Be sure to get these tire saving features in the wheels you select:



1. Proper spacing between pneumatic duals. The two tires must be kept from chafing each other when deflected under a load.
2. Adequate ventilation around brake drums. Heat is rubber's greatest enemy.
3. Accuracy of machining that insures their rolling true. This means added miles of wear to tires.

You can be certain of getting these important features in **KAY STEEL WHEELS**. Bulletin A gives complete details. Write for it to the nearest address below.

**KAY-BRUNNER STEEL PRODUCTS, Inc.**

2721 Elm Street, Los Angeles, Calif.  
P. O. Box 235

620 So. Delaware Ave.,  
Philadelphia, Penna.

2540 So. Wabash Ave.,  
Chicago, Ill.

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St. Louis, Mo.

## INCREASE SALES VOLUME SECURE REPEAT ORDERS

A progressive dealer is not only attracted by a handsome profit to sell dump body equipment, but also by the minimum amount of servicing to keep the bodies on the job. Often an enticing margin is completely consumed by service charges. Consequently, this is not so profitable.

Galion Allsteel Dump Bodies are beyond the experimental stages. They serve efficiently and indefinitely. Sell them to your customers—repeat orders will follow. Get the facts for your 1930 program.

WRITE FOR FACTS

**THE GALION ALLSTEEL BODY CO.**  
Box 5, GALION, OHIO

# GALION

## ALLSTEEL BODIES

*The Commercial Car Journal  
and Operation & Maintenance*

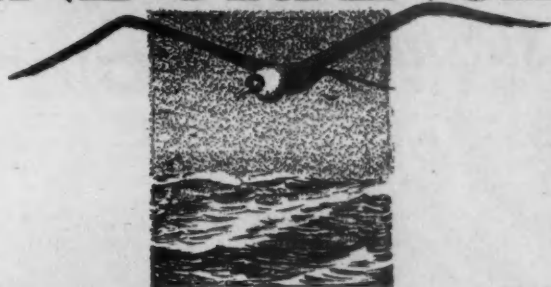
**SPECIALLY  
DESIGNED FOR  
HEAVY DUTY  
SERVICE**



**VICTOR**  
MADE IN U. S. A.  
**GASKETS**  
The World's  
Standard Gasket

VICTOR MFG. & GASKET CO.  
5750 Roosevelt Road Chicago  
WORLD'S LARGEST GASKET MANUFACTURER

*mor-*  
**ENDURANCE**



**SPEED**  
**SUPERIOR**  
**ENDURANCE**  
**MOR-POWER**

Endurance, speed and power are all to be found in the frigate bird which flies for weeks without rest over the oceans.

These qualities—endurance, speed and power—are also found in MOR-POWER Piston Rings, consequently giving longer life to any motor in which they are installed.

Made in the heart of the industry and to motor car builders' original specifications, MOR-POWER Rings are standard on cars of outstanding performance because of their superior endurance.

For endurance, greater speed and longer life install MOR-POWER Rings in your next job to be sure of satisfied customers.

Insist upon MOR-POWER Rings from your jobber.

**SUPERIOR**  
**PISTON RING CO., INC.**  
6432 EPWORTH BLVD., DETROIT, MICH.

European Branch:

Bonded Stock in Antwerp  
66 rue Hotel des Monnaies, Brussels, Belgium  
In charge of Corneliusson & Stakgold  
Canadian Warehouse—The Flaherty Mfg. Co., Hamilton, Ont.

The Commercial Car Journal  
and Operation & Maintenance

**Harvey**  
RACINE

**Inherent Quality in  
Harvey Truck Springs**

Harvey Truck Springs are designed to stand more and work longer than any other springs. They are strictly a heavy duty proposition. Every step of the way from the special formula of the steel, heat treating, oil tempering, forming and fitting, the work these springs are to do is the first and principal consideration.

Harvey Truck Springs staunchly uphold the reputation of Harvey Spring & Forging Company as the Quality Spring Builders of America. They cut the truck owners costs.

**HARVEY SPRINGS**

HARVEY SPRING & FORGING CO.

Factory and Main Offices, Racine, Wis.

New York Branch

Chicago Branch

11th Avenue and 47th Street

2440 Indiana Avenue

**7 DAYS A WEEK TO  
COPE WITH SALES**

IF you're surprised that Hughes-Keenan's plant has to operate on a 7-day schedule to cope with sales, especially this year, give our catalog two minutes' study.

The remarkable new Glider Dumps account for this popularity with dump body users. Send for the Hughes-Keenan 1930 catalog and discover the profit possibilities for yourself. Use the coupon.

THE HUGHES-KEENAN CO.  
Mansfield, Ohio

**HUGHES-KEENAN**  
*Steel Dump Bodies*

The Hughes-Keenan Company  
Mansfield, Ohio

Gentlemen:

Please send us your Dump Body Catalogs.

Name .....

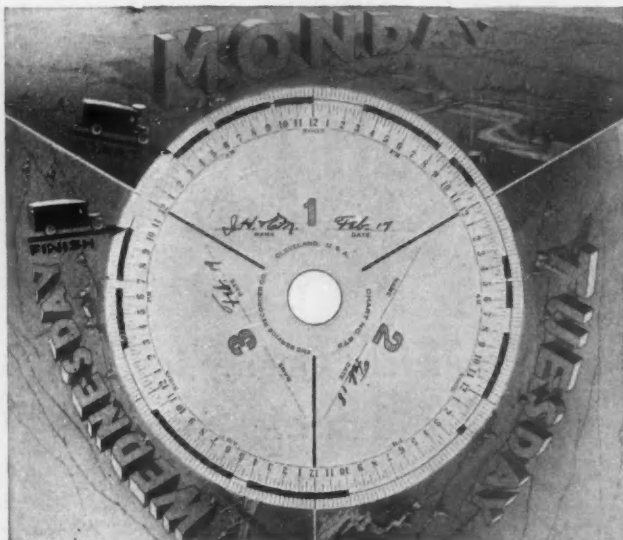
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16

May, 1930





Announcing . . .

### The 3-Day Servis Recorder

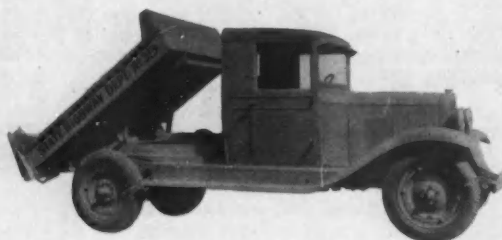
Here it is. 72 hours continuous service without changing the chart. The truck runs three days and three nights, and the whole journey is recorded on one big 6-inch chart . . . a chart which is easy to read . . . a chart on which each

day's record stands out clearly. **Simplcity** . . . It's the same rugged, never-wear-out Servis Recorder . . . No additional parts . . . But it's made only in the large size, and the price: \$32.50 complete with 100 big 6-inch waxed charts.

**THE  
SERVIS  
RECORDER**

"Keeps Trucks Busy"

**THE SERVICE RECORDER CO., Cleveland, O.**

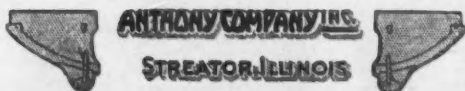


### ANTHONY ROTATING POWER HOIST DUMP BODIES

Contractors are demanding this Dump Body as it meets their every need. There is not a power hoist body built for 1 or 1½ ton trucks, that will handle more capacity and still, there is not a power hoist body built selling lower in price than this Dump Body.

Three point suspension is carried out in support of box and also in one push rod. It is impossible to keep more than three points in a plane when more than one push rod is used and when chassis is on rough ground.

Write for literature.



ORIGINATORS OF ROCKER AND ROLLER ROCKER DUMP BODIES



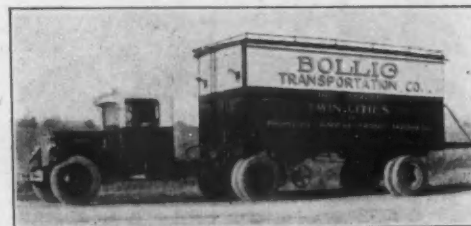
Young heavy duty radiators cool the Waukesha 6XK and 6KS engines with which J. C. Jarrett Trucks are powered. In the sphere in which they operate, these trucks are well known for their high quality and performance. Where superlative performance is deemed essential, there you find Young cooling systems, and the manufacturer who specifies the best really buys most economically. Young radiators have stamina.

### Young Radiators

**YOUNG RADIATOR COMPANY, Racine, Wis.**

S. CLYDE KYLE, Pac. Coast Representative, Rialto Bldg., San Francisco, Cal.

### Win extra profits by slashing ton-mile costs



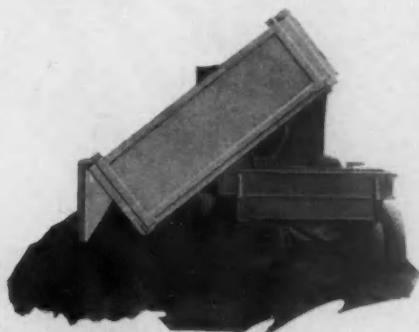
**W**HATEVER your hauling job, Highway Trailers will help you do it more efficiently and economically. There's a Highway model to solve every transportation problem. Not assembled units, they are built complete, except for Timken bearings and rubber tires, in our own plant. Write for details of how Highways cut costs and build profits.

**HIGHWAY  
TRAILER CO.**

World's Largest Trailer Plants

General Offices and Plant No. 1, Edgerton, Wis.

Plant No. 2, Stoughton, Wis.



BEST STANDARD SIDE-DUMP BODY  
MODEL 2FG1, DUMPS TO EITHER SIDE

**SATISFIED USERS ARE  
GIVING REPEAT ORDERS**

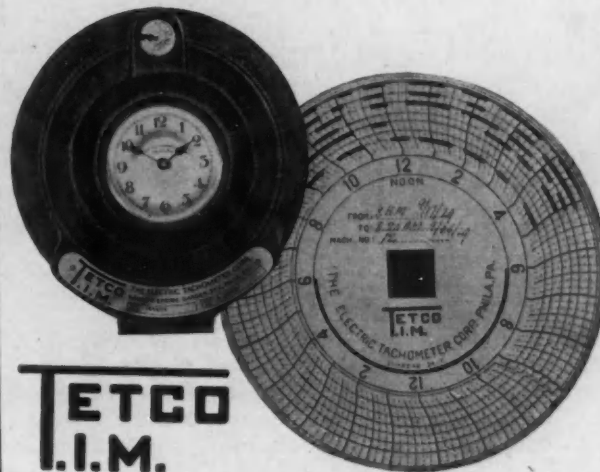
for the

**SIDE DUMP BODIES THAT  
SELL ON THEIR MERITS**

*SEE THEM AND YOU  
WILL APPRECIATE THEM*

WRITE FOR CATALOGUE "C"

**BEST BODY CORPORATION**  
COATESVILLE, PENNA., U.S.A.

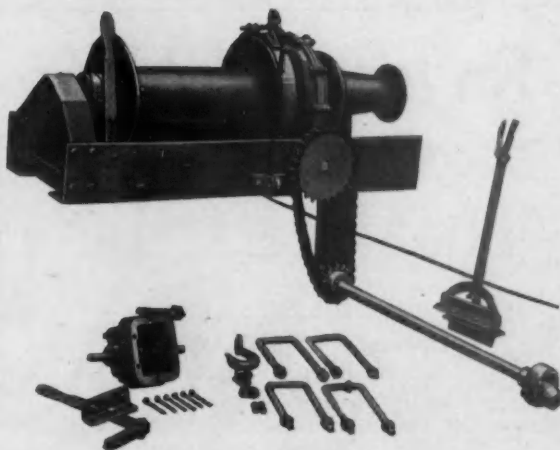


### "Time-In-Motion" Tells the Story

If you want to know which trucks are making the pay load pay you want to know the story of their movements. If they have long idle periods you want to know why. TETCO T.I.M. gives you the facts—straight. An improved "Time-In-Motion" Recorder. Seven-day recording device with easy, quick, day by day comparison. Change from one day to next made automatically. *The most efficient, useful and economical time recorder on the market.*

Distributors are now being appointed. If you are interested in the sales franchise for TETCO T.I.M. in your territory write us at once.

**The Electric Tachometer Corporation**  
Broad and Spring Garden Sts.  
Philadelphia Penna.



## Winch Coverage

MODEL KW 75 \$210.00  
WITHOUT P. T. O.

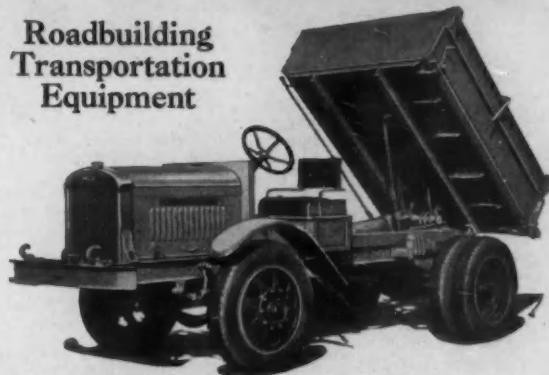
Kingham winches are made in three sizes . . . very simple in design yet sturdy enough to stand the rough treatment of everyday usage. Can be furnished for mounting either on the truck chassis

only or truck with platform body. Maximum Capacity Service, High Maintenance Quality and Low Cost. Write for prices and new catalogue on Winches and Trailers.

**KINGHAM TRAILER COMPANY**  
LOUISVILLE, KENTUCKY

# HUG

Roadbuilding  
Transportation  
Equipment



Roadbuilding Transportation Equipment must of necessity be designed to meet the specific operating conditions of the field. The conditions of operation in this field are vastly different from that encountered in other fields of truck operation.

With this fundamental idea in mind, The Hug Co. is furnishing Roadbuilding Transportation Equipment that is designed and engineered from a roadbuilding standpoint.

The Hug sales contract offers distributors and dealers the opportunity to sell specialized equipment to a highly specialized field of transportation. When you sell Hugs, they stay sold and establish repeat orders. Our distributor franchise pays consistent dividends.

*Complete information on request.*

**THE HUG CO. Highland, Illinois**

## Genuine Old Hickory Kingham

### Trailers and Winches

Three new catalogs are just off the press—they contain all the newest and up-to-the-minute information on the profitable Old Hickory Kingham Trailers, Old Hickory Winches and Kentucky Transport Trailers, and Winches and Kentucky Custom-Bilt Commercial Bodies.

Ask for the orange booklet—it's the one with complete specifications on the genuine Old Hickory Kingham Trailers and Old Hickory Winches—or the red one for Kentucky Trailers and Winches—or the one for Kentucky Custom-Bilt Commercial Bodies—we shall be glad to send all three—but be sure to get the orange one. Genuine Old Hickory Kingham Trailers are the products of a specialized service to meet your needs and those of your trade. They increase special equipment sales. They mean big profits to you this year. Write for the new catalogs today.

KENTUCKY WAGON MFG. CO.  
LOUISVILLE, KENTUCKY

GET THESE  
NEW  
BOOKLETS  
*today*



This 3-ton Old Hickory Kingham Trailer, model KT 82, is but one of the modern up-to-the-minute products that is enjoying increased sales and popularity daily—details in the orange booklet.

“ECONOMIC TRANSPORTATION NECESSITIES SINCE 1879”



### Compare the Highland Coupe Cab With Any Other Cab

Note the difference in finish—no wood exposed. All outside surfaces of metal.

Note the windshield—the way the glass is supported in rubber and the opening is sealed so as to be weather tight.

The interior finish is of the best three ply wood, which is durable and less noisy than cab with inside finish of steel.

The Highland Cab not only looks good on the show room floor, but after months of service.

The use of Highland Cabs cuts maintenance charges and adds to the advertising value of your trucks. Specify Highland Cabs on all trucks you buy and buy them for trucks you rebuild.

THE HIGHLAND BODY MFG. CO.  
403 Elmwood Place Cincinnati, Ohio

# HIGHLAND

FOR CABS

May, 1930

## Suggest to Your Next Customer That He Use the—

Commercial Car Journal and  
Operation & Maintenance  
Standard Cost System. A  
simple, convenient and inex-  
pensive method of keeping  
close tabs on trucks and  
drivers.

It costs only \$9.50 for 500  
Driver's Cards, 60 Monthly  
Summary Sheets, 1 Complete  
Instruction Book, 1 Binder.

CHILTON CLASS JOURNAL  
COMPANY

Chestnut and  
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Controlled by the  
United Business Publishers, Inc.

Philadelphia

The Commercial Car Journal  
and Operation & Maintenance



# BLOOD-BROTHERS

MACHINE COMPANY



ALLEGAN, MICH.

The universals on a Blood shaft need hardly half the attention other joints do, and years will necessitate the replacement of but a few simple parts.

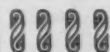
Member of Motor Truck Industries, Inc., of America

# HOOPE'S WHEELS

## HOOPE'S

WOOD SPOKE METAL FELLOE  
WHEELS

For Use with Single and Dual Solid Tires



## HOOPE'S-PARKER

HUB INTEGRAL MALLEABLE  
WHEELS

For Use with Single and Dual Pneumatic Tires

1867

Hoopes, Bro. & Darlington, Inc.  
WEST CHESTER, PA.

1930

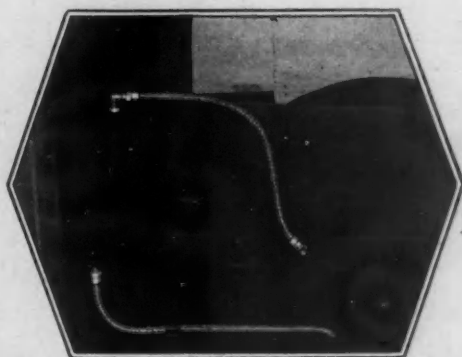
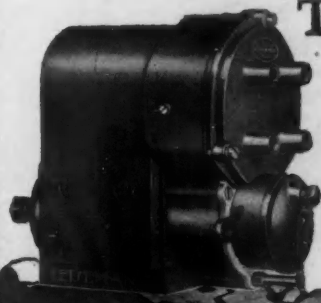
# EISEMANN

The Leading Magneto

for Motor Trucks

Widely used, and recognized as the standard of the industry. Backed with unrivalled performance record.

EISEMANN MAGNETO CORPORATION  
165 Broadway - New York



USE Titeflex the all-metal flexible tubing and eliminate broken fuel lines. You are familiar with the cost of a laid up Truck, Tractor or Bus due to crystallized solid lines. Specify Titeflex when buying new equipment. Write us direct for catalog.

TITEFLEX METAL HOSE CO.  
500 Frelinghuysen Ave., Newark, N. J.

**Tite flex**

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**When you apply the mathematics of value, Mather Springs are the logical choice.**

**THE MATHER SPRING COMPANY, TOLEDO, OHIO**

*Manufacturers of Scientifically Heat Treated Automobile Springs*

# This Week

## 500 CARRIERS WILL SPEND \$1,040,000 FOR MAINTENANCE ALONE!

This is their weekly average. These are five hundred of the largest common carriers in the bus business. There are more than six thousand carriers spending money every day for maintenance, for replacements, for labor, for gas, oil and tires.

Add to this the stupendous expenditure in the truck field—and there is all the more reason why YOU should take time out to select the *right* equipment for your units.

Carburetion can be a constant source of service and replacement expense unless you choose carburetors that are designed and built for the job you have for them to do.

ZENITH heavy-duty carburetors are produced to perform their job of work day in and day out, the year around. Economy, consistent with the highest degree of efficiency, is a feature of Zenith heavy-duty carburetion that has made them the leaders in bus and truck fields.

The majority of truck and bus manufacturers standardize on ZENITH carburetors because of their efficiency, economy and dependability. Many individual truck and bus operators have found their Zenith dealers can increase profits for them by reducing carburetor service expense to the minimum.

For full information regarding ZENITH heavy-duty carburetors to suit your individual requirements, see your nearest ZENITH dealer, or address:

## ZENITH-DETROIT CORPORATION

*Manufacturers of Zenith Carburetors and Filters*

**DETROIT**

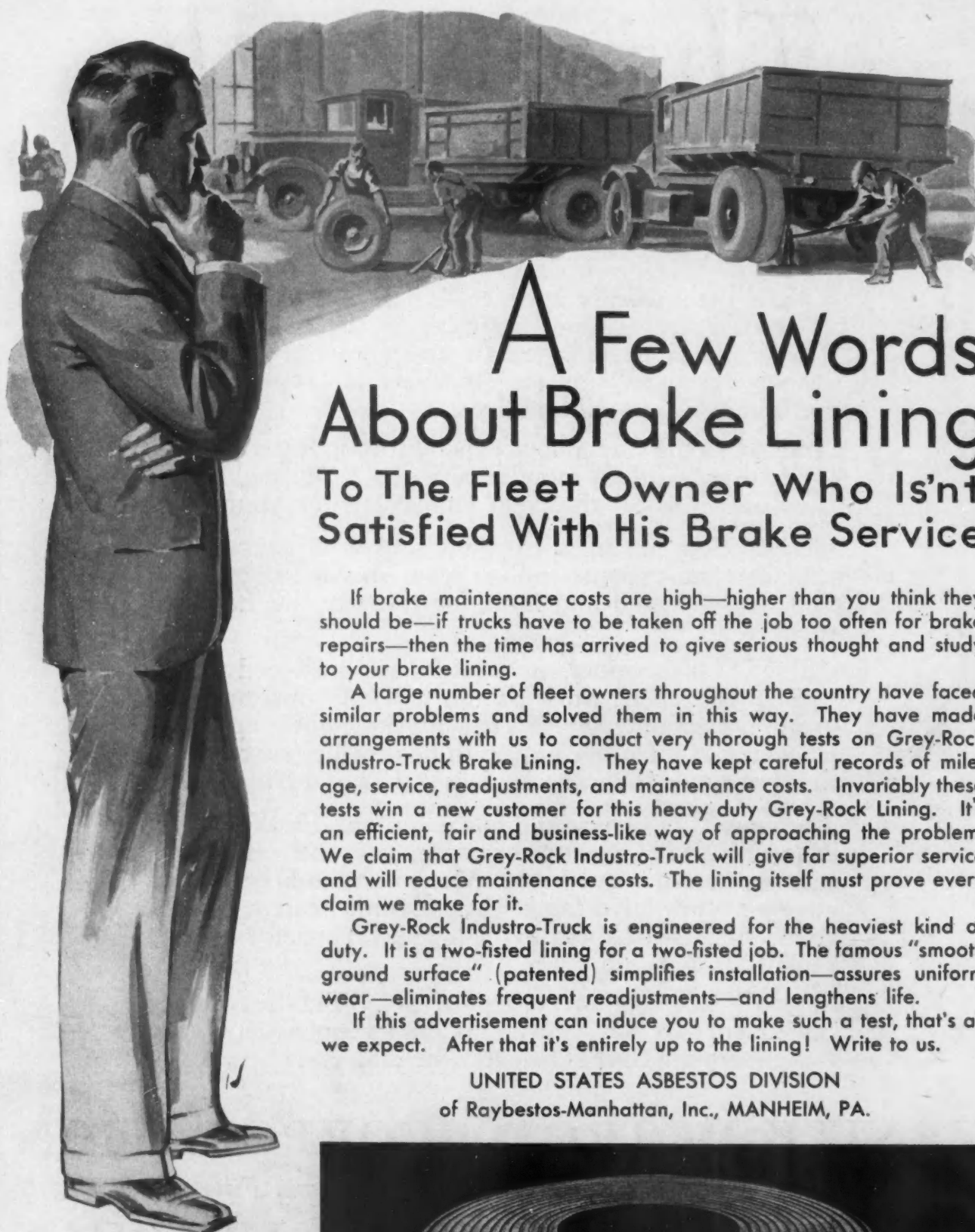
**MICHIGAN**

*Branches:*

New York, Buffalo, Cleveland, Chicago, Milwaukee, Indianapolis, Toronto

*Member Motor Truck Industries, Inc., of America*





# A Few Words About Brake Lining

## To The Fleet Owner Who Isn't Satisfied With His Brake Service

If brake maintenance costs are high—higher than you think they should be—if trucks have to be taken off the job too often for brake repairs—then the time has arrived to give serious thought and study to your brake lining.

A large number of fleet owners throughout the country have faced similar problems and solved them in this way. They have made arrangements with us to conduct very thorough tests on Grey-Rock Industro-Truck Brake Lining. They have kept careful records of mileage, service, readjustments, and maintenance costs. Invariably these tests win a new customer for this heavy duty Grey-Rock Lining. It's an efficient, fair and business-like way of approaching the problem. We claim that Grey-Rock Industro-Truck will give far superior service and will reduce maintenance costs. The lining itself must prove every claim we make for it.

Grey-Rock Industro-Truck is engineered for the heaviest kind of duty. It is a two-fisted lining for a two-fisted job. The famous "smooth ground surface" (patented) simplifies installation—assures uniform wear—eliminates frequent readjustments—and lengthens life.

If this advertisement can induce you to make such a test, that's all we expect. After that it's entirely up to the lining! Write to us.

UNITED STATES ASBESTOS DIVISION  
of Raybestos-Manhattan, Inc., MANHEIM, PA.

### MICROMETER ACCURACY

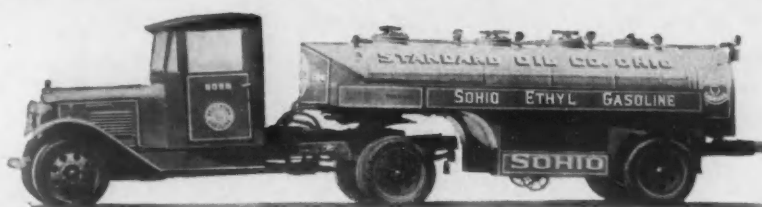
Continual micrometer checking assures dimensional accuracy to .008 of an inch. A smooth, uniform surface and perfect accuracy in thickness are vitally important features of this heavy duty Grey-Rock lining.

May, 1930



The Commercial Car Journal  
and Operation & Maintenance

JUL -1 1944



Indiana Truck and  
Trailer equipped  
with Spoksteel dual  
and single wheels.

Continually grows the list of manufacturers who want this sturdy *work-wheel*—dual or single—designed by expert engineers and containing these exclusive features. Spider drop-forged from high carbon steel for greater strength and lessened weight. Wheels held securely by hub locking flange, spider and rim made in one unit bored and faced concentrically with the tire seat so that tires remain true and uneven wear is avoided. Fan action of spoke construction keeps wheels and tires cool. Write for full particulars.

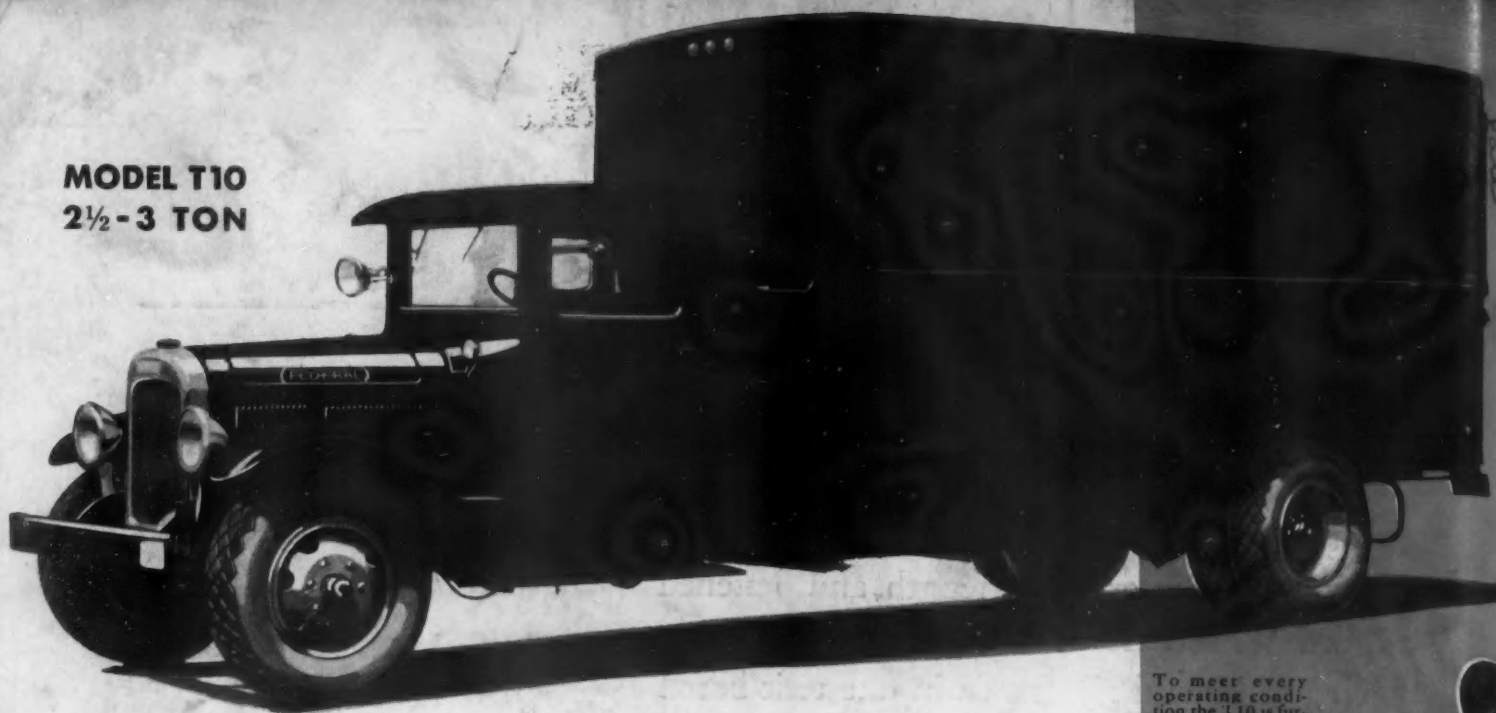
MOTOR WHEEL CORPORATION  
LANSING MICHIGAN

# Spoksteel. DUAL WHEELS

by  
Motor  
Wheel



**MODEL T10**  
**2½-3 TON**



# An Outstanding Truck in FEDERAL'S 20<sup>TH</sup> Anniversary Line

FROM twenty years' experience in manufacturing trucks *exclusively*—from resources of millions of dollars invested in a ten-acre factory—from specialized engineering skill and the most modern equipment—comes a new Federal that in downright merit is a leader in the 2½-3 ton field.

This new T10 has a 75-horsepower, 6-cylinder, overhead valve type engine with 7-bearing crankshaft, valve assembly in removable head, chain-driven fan and many other modern features. A capable engine with reserve power for the hardest pulls and most exacting speed requirements.

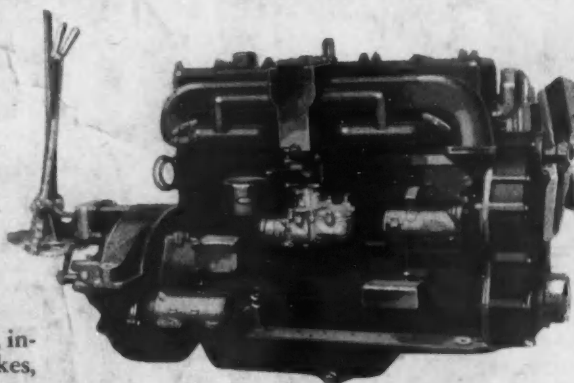
There is a choice of either bevel or worm drive rear axle—full-floating type—so designed that the load carried by each rear wheel is always centered on two large bearings. This eliminates overhang where dual tires are used and prevents breakage of bearings and shafts.

A 4-speed transmission, mounted amid-ship, supplies the widest possible range of power and speed. 4-wheel hydraulic, internal-expanding, fully enclosed brakes, supplemented by a powerful vacuum booster, increases safety. A sturdy steering gear of the cam and lever type con-

tributes to easy handling. The 12-inch clutch, with extra wide face, is oversize for the truck's capacity. There are five wheel-base lengths, ranging from 158" to 201".

And in addition to its sound engineering features, its complete dependableness and genuine economy, this T10 offers a new type of substantial truck beauty that materially increases its advertising value for any business.

FEDERAL MOTOR TRUCK COMPANY  
5786 Federal Avenue • Detroit, Michigan



The T10 engine—75 horsepower, 6-cylinder overhead valve type, with 7-bearing crankshaft and many other modern features.

To meet every operating condition the T10 is furnished with either bevel or worm drive full-floating rear axle.



Enclosed wheel hub brakes with full automatic action. The cast brakes covered in quality lining.

## Bevel Drive Models

1 Ton	4 Cylinder	\$ 980
1 Ton	6 Cylinder	1090
1½ Ton	6 Cylinder	1525
2 Ton	6 Cylinder	1855
2½ Ton	6 Cylinder	2185
2½-3 Ton	6 Cylinder	2740

## Worm Drive Models

2½ Ton	6 Cylinder	2360
2½-3 Ton	6 Cylinder	2915
3 3/4 Ton	6 Cylinder	3860
4-5 Ton	6 Cylinder	4735
*4-5 Ton	6 Cylinder	4960
7½ Ton	4 Cylinder	5085
7½ Ton	6 Cylinder	5810

Prices are F. O. B. Detroit on standard chassis only

\*Westinghouse Air Brakes standard equipment

# FEDERAL TRUCKS

CABS AND BODIES



Enclosed  
wheel hy  
brakes with  
for semi  
are active  
tion. The  
cast brakes  
covered in  
quality  
lining

#### Models

er . \$ 980  
er . 1090  
er . 1525  
er . 1855  
er . 2185  
er . 2740

#### Models

er . 2360  
er . 2915  
er . 3860  
er . 4735  
er . 4960  
er . 5085  
er . 5810

*Detroit  
is only*  
Air Brakes  
oment